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August 17, 1999
IT Project: 782983

Ms. Sundy Lloyd-Connor
California Department of Transportation, District 4
Office of Environmental Engineering
P.O. Box 23660
Oakland, California 94623-0660

Subject: Report for the Route 505 and Route 12 Project, Solano County, California

Dear Ms. Lloyd-Connor:

IT Corporation (IT) is pleased to submit this report for environmental site investigation conducted at Route 505 in Vacaville and Route 12 between Suisun City and Rio Vista, Solano County, California. This report is submitted in accordance with Contract No. 43A0012, Task Order 04-0T0301-ET.

If you have any questions, please feel free to contact either of us at your convenience.

Sincerely,
IT CORPORATION

Michael D. Miller, R.G.
Task Order Manager

R. David Smith, R.G.
Project Geologist

Enclosure

**SITE INVESTIGATION REPORT
Route 12 and Route 505
Solano County, California**


Route 12 Passing Lane Extension
Route 505 Signalization, Lighting, and Widening
Solano County, California

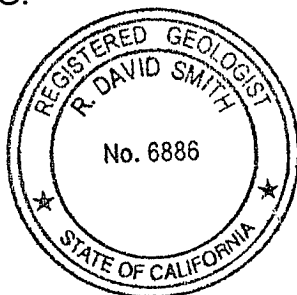
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Task Order No. 04-0T0301-ET
Contract No. 43A0012

August 17, 1999


R. David Smith, R.G.
Project Geologist





Michael D. Miller, R.G.
Project Manager

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1.0 Introduction

This report has been prepared by IT Corporation (IT) to present the results of soil investigation performed by IT on June 18 and June 21, 1999, along Route 12, near Route 113, and along Route 505 in Vacaville, in Solano County, California (Figure 1). The Route 12 site is located 15.5 kilometers east of Suisun City to 6.5 kilometers west of Rio Vista. The Route 505 site is located in the City of Vacaville at Route 505 and the Vaca Valley Parkway. This project was conducted at the request and authorization of Ms. Sundry Lloyd-Connor of the California Department of Transportation (Caltrans) under Task Order No. 04-OT0301-ET (Caltrans, 1999), Contract 43A0012.

1.1 Site Description

The field work for this investigation was conducted within Caltrans right-of-way in the existing unpaved shoulder areas of the highway. The project portion of Route 12 is a two-lane conventional highway of rural character. The surrounding land is currently undeveloped and is characterized by open, grass-covered, gently rolling topography with few man-made structures. Historic and current land use is grazing and seasonal wheat production. The project portion of Route 505 is along the shoulder of northbound off-ramp of Route 505 to the Vaca Valley Parkway. The vicinity is semi-rural with light industrial use.

1.2 Project History

For the first site (Route 12), Caltrans proposes to lengthen four existing passing lane segments along three segments of Route 12. The existing passing lane segments, two eastbound and two westbound, are from 0.6 to 0.8 kilometers in length. For the second site (Route 505), Caltrans will install traffic signals and lighting at the northbound Route 505 ramps with Vaca Valley Parkway. A portion of the off-ramp is to be widened to two lanes, and the eastbound approach of Vaca Valley Parkway will be widened to provide a left-turn lane into the on-ramp.

There is one known previous environmental investigation near the Route 12 project boundaries that was conducted by IT, for Caltrans, at the northeast intersection of Routes 12 and 113 (IT Corp., 1998). Caltrans was planning to install a dedicated right turn lane over the existing unpaved shoulder of the northeast quadrant of the intersection between Routes 12 and 113 in Solano County. The objective of that investigation was to assess the presence of lead within shallow soils in the project area. Fifteen soil borings were drilled and soil samples collected for analysis of total and

soluble lead. Only 13 of the 60 soil samples collected were reported to contain total lead in excess of 10 times the STLC or 50 ppm. None exceeded the TTLC (1,000 ppm). In general, the higher concentrations of total lead were detected in the shallower samples; with few exceptions, total lead concentrations decreased with increasing depth within each borehole, which is indicative of aerially deposited lead impacted soils near major transportation routes. Only 1 of 13 samples (B13-91) was reported to contain soluble lead (9.4 ppm) in excess of the regulatory level of 5 ppm; therefore, a re-analysis with a DI extraction was requested and the result yielded only 0.072 ppm. IT concluded that, pending a formal statistical analyses, the site soil was likely to meet the criteria set forth in the variance issued to Caltrans by the Department of Toxics and Substance Control (DTSC) for excavated soil re-use within the project area.

1.3 Project Objectives

In 1995, DTSC issued Caltrans a variance concerning the handling and reuse of material contaminated by lead from motor vehicle emissions. The purpose of this investigation was to determine if the concentrations of lead in the unpaved shoulder areas of the subject locations meet the criteria of the DTSC variance. Therefore, the objectives of this investigation were to assess the presence and concentration of total inorganic lead in areas where excavation of the existing ground surface is anticipated.

2.0 Site Investigation - Scope and Methods

To achieve the project objective, the following scope of work was conducted:

1. Pre-work Site Visit, Work Plan and Health and Safety Plan Preparation, Permits
2. Field Investigation
3. Laboratory Analyses
4. Site Investigation Report Preparation

2.1 Pre-Work Site Visit, Work Plan and H&S Plan, and Permits

A pre-work site visit was conducted at the project site on June 2, 1999. The visit was attended by Mr. Donald Bransford of IT and Ms. Sundy Lloyd-Connor of Caltrans. The Task Order was reviewed, boring locations and USA notifications were marked in paint, and the site visit checklist and completion schedule were discussed and signed.

A Work Plan (IT Corp., 1999a) was prepared to present the scope of work for the soil investigation conducted at the site. The Work Plan was presented for client review prior to finalization and start of field work. A site Health and Safety Plan (IT Corp., 1999b) was prepared in accordance with 29 CFR 1910.120. The Health and Safety Plan included safety procedures for work to be performed at the site, chemical hazard information, site safety officers, and preferred medical emergency locations.

A standard encroachment permit was obtained from the Caltrans Permit Department for work on State Highway Right of Way property. Appendix A contains a copy of the permit. Underground Service Alert was notified of the subsurface investigation prior to initiation of the investigation. No adverse issues were encountered with utility lines in the project area.

2.2 Field Investigation

This task included the advancement of 39 soil borings for collection of soil samples. Boring locations were selected by Caltrans to provide data for systematic evaluation of subsurface conditions. The locations of the soil borings are shown in Figures 2 through 20. Drilling and sampling procedures are presented in Appendix B.

The 39 borings were drilled using hand-held augering and sampling equipment. Twenty-eight soil borings were advanced to a depth of approximately 0.9 meters (3 feet) below ground surface (BGS) along Route 12, and 11 soil borings advanced to 0.6 meters (2 feet) BGS along Route 505, a depth expected to allow for characterization of shallow subsurface soils and the materials planned to be excavated. The locations of the borings were along Route 12 (Kilometer Post (KP) 25.0 to 33.4) and Route 505 (KP R2.33), and were generally 1.5 meters (5 feet) from the edge of the roadway pavement. All borings were located within Caltrans right-of-way.

Soil samples were collected from approximately 0.15, 0.3, 0.6, and 0.9 meters (0.5, 1.0, 2.0, and 3.0 feet) BGS at the Route 12 site, and 0.15, 0.3, and 0.6 meters (0.5, 1.0, and 2.0 feet) BGS at the Route 505 site. Two borings along Route 12 could not be drilled to completion. Samples were not collected at five intervals due to bit refusal in gravelly conditions (B2-0.6, -0.9 and B4-0.3, -0.6, -0.9). No groundwater was encountered. Soil samples were collected directly from the hand-auger and the material was placed in sealable ziplock bags. The soil samples were labeled, packaged and stored in an insulated chest for transport under chain-of-custody manifest to Sparger Technology,

a California-certified analytical laboratory in Sacramento, California. Soil samples were analyzed according to the analytical program described in Table 1 and Section 2.3. The borings were not logged for lithologic characteristics, but general soil classifications such as clay, silt, or sand were noted on field logs by the sample technician. The field forms are presented in Appendix C.

Following sample collection, the borings were backfilled with the remaining borehole cuttings. Back-filling of boreholes was supplemented with bentonite chips where necessary. All drilling and sampling equipment was washed prior to use. In addition, to minimize cross-contamination between borings, all appropriate downhole drilling and sampling equipment was washed between borings. Excess soil waste was not anticipated, and no excess drill cuttings were generated.

2.3 Laboratory Analyses

The laboratory analytical program and results for specific soil samples is presented in Table 1. The soil samples were submitted to Sparger Technology, a California-certified analytical laboratory within 24 hours of collection. The analyses were conducted on a 48-hour turn-around basis in general accordance with U.S. Environmental Protection Agency (EPA) specified holding times. The analyses were performed in general accordance with the EPA method listed below.

<u>Matrix</u>	<u>Number of Samples</u>	<u>Analyses</u>
soil	140	EPA 6010 ICAP Single Element Scan (total lead)
soil	25	22 CCR 667000 Waste Extraction Test (WET)**
soil	5	WET with deionized water extraction (DI WET)
soil	8	EPA 1311 Toxicity Characteristic Leaching Procedure (TCLP) **
soil	8	EPA 9045 Soil pH

** Soil samples reported to contain total lead in excess of 10 times the Soluble Threshold Limit Concentration (STLC), but less than the Total Limit Threshold Concentration (TTLC), were analyzed using the WET method. Soil samples reported to contain lead in excess of 20 times the STLC were analyzed using the TCLP. IT notified and discussed lead results with the Contract Manager prior to approving WET or TCLP method analyses.

3.0 Site Investigation Results

General soil classifications are provided in Appendix C. The analytical results of all soil samples are presented in Table 1 and Figures 2 to 17. The laboratory reports are provided in Appendix D.

3.1 Soil Conditions

Along the Route 12 site, the field geologist noted the soil type as roadbase underlain by sandy silt in borings B1 to B9, and roadbase underlain by silty clay in borings B10 to B28. Along the Route 505 site, the soil type was noted as roadbase underlain by silty sand in borings B1-B6, roadbase and gravelly fill in borings B7 to B9, and roadbase underlain by silt with sand in borings B10 and B11. Groundwater was not encountered within the total depth explored in any borehole.

3.2 Analytical Results

Total Inorganic Lead

Along Route 12, total lead was reported in the soil samples at concentrations ranging from 1.4 to 197 parts per million (ppm). Along Route 505, total lead was reported in the soil samples at concentrations ranging from 4.4 to 510 ppm (Table 1). No total lead results exceeded the Total Limit Threshold Concentration of 1,000 ppm, above which a waste may be characterized as hazardous (Title 22, CCR).

Soil pH

Four samples for pH analysis were chosen at random at both the Route 12 and Route 505 sites. The reported pH values exhibited a small range from 6.4 to 6.6 for Route 12 samples, and from 6.5 to 6.7 for Route 505 samples (Table 1).

Soluble Lead - WET

Along Route 12, twenty samples reported to contain lead in excess of 10 times the STLC were analyzed for soluble lead using the WET. Along Route 505, five samples reported to contain lead in excess of 10 times the STLC were analyzed by the WET. For both sites, the WET results for soluble lead ranged from 0.52 to 24 ppm. Only five soluble lead results exceeded the STLC of 5.0 ppm (Route 12 B18-0.15 and B27-0.15, and Route 505 B1-0.15, B2-0.15, and B3-0.15 [Table 1]). These samples were re-analyzed for soluble lead using Deionized water in the WET analysis (DI WET). The results ranged from 0.019 to 0.16 ppm (Table 1).

Soluble Lead - TCLP

Along Route 12, five samples reported to contain lead in excess of 20 times the STLC were analyzed for soluble lead using the TCLP. Along Route 505, three samples reported to contain lead in excess

of 20 times the STLC were analyzed by the TCLP. For both sites, the TCLP results for soluble lead ranged from below reporting limits (0.05 ppm) to 2.2 ppm. No soluble lead results obtained from the TCLP exceeded 5.0 ppm (Table 1).

4.0 Data Evaluation

For Route 12, only 20 of the 107 soil samples collected were reported to contain total lead in excess of 10 or 20 times the STLC (50 or 100 ppm). For Route 505, only 5 of the 33 soil samples collected were reported to contain total lead in excess of 10 or 20 times the STLC (50 or 100 ppm). Table 1 lists the total lead results in "bold" for these samples. No total lead concentrations exceeded the TTLC (1,000 ppm). Along Route 505, the higher concentrations of total lead were detected in the shallower samples; with few exceptions, total lead concentrations decreased with increasing depth within each borehole (Table 1), which is indicative of aerially deposited lead impacted soils near major transportation routes. Relative to the deeper sample intervals, along Route 12, the average of total lead concentrations was only slightly higher in the 0.15 sample interval, which may indicate that the topmost shoulder material is that of newer "clean" fill or roadbase not exposed to many years of aerially deposited lead from vehicle emissions.

IT conducted a statistical evaluation of all total lead analytical data for this project at the request of Caltrans. The statistical evaluation was conducted in general accordance with a guidance document developed by the Caltrans Noise, Air, and Hazardous Waste Management Office dated February 4, 1998 (Caltrans, 1998), and the Supplemental Guidance to Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (RAGS/HHEM- USEPA, 1992). Caltrans received a variance from The Department of Toxics and Substance Control (DTSC) which allows, under certain conditions, to excavate, collect, and reuse contaminated soils within existing rights of way. Within the limitations of the variance, soil analytical data is used to determine if and how soil material may be reused.

The statistical evaluation addressed the following items:

- Determination of normal or lognormal distribution of sample data to identify the proper equation for certainty analysis;
- Calculation of mean;
- Calculation of standard deviation;

- Calculation of the 95% Upper Confidence Level (UCL), interpreted as a 95% confidence that the true mean for a given population is no higher than the calculated UCL.

The data was divided into four populations based on the sampling intervals along Route 12 (0.15, 0.3, 0.6, and 0.9 meters) and three populations along Route 505 (0.15, 0.3, and 0.6 meters). Seven populations of lead data were evaluated. Although there were no "non-detects" reported by the lab, "non-detects" would be treated as one-half of the reporting limit in the statistical evaluation. Calculations were performed in EXCEL 97™ and were proofed by hand calculation using equations from "Statistical Methods for Environmental Pollution Monitoring", Gilbert, 1987. The equation used for the calculation of the 95% UCL (Caltrans, 1998; USEPA, 1992) was entered into EXCEL 97™ and proofed by hand calculation (Gilbert, 1987).

The 95% UCL was calculated using the following equation:

$$UCL = \exp(x + 0.5s^2 + (sH/\sqrt{n-1})) \quad (1)$$

where \exp = constant (base of the natural log (LN) = 2.718)
 x = mean of the transformed data (LN(concentration))
 s = standard deviation of the transformed data
 H = H-statistic
 n = number of samples

Determination of the H-statistic was accomplished by linear extrapolation between given values (Table A12, p265, Gilbert, 1987). Results of the statistical calculations are provided in Table 2.

Along Route 505, the mean (average) concentrations decreased markedly below the first interval (0.15 meters). The average concentration of total lead in the upper 0.15 meters was 99.5 ppm, and decreased to 8.51 ppm and 8.3 ppm in the bottom sampling intervals. The average concentrations of total lead over the Route 12 sampling intervals ranged from 38 to 10.5 ppm (Table 2).

The 95% UCL (based on equation (1)) is a function of the standard deviation (s), the number of samples (n), and the H-statistic. The H-statistic (Gilbert, 1987) is determined from tabulated values based on s and n . Therefore, the calculated 95% UCL is sensitive to s and n . In general, for high values of n and/or low values of s , the 95% UCL will be close to the mean concentration. In this case, the average for the population is representative. Conversely, for low values of n and/or high values of s , the 95% UCL may be far away from the average, and the 95% UCL cannot be defined

accurately because the uncertainty involved in the sample population is too high. In this case, the lead concentration is not necessarily higher than in other sites, but that more data are required before recommendations can be made based on the statistical evaluation.

Except for the 0-0.15 meter interval along Route 505, the 95% UCLs calculated for all other populations are near the respective mean concentrations (Table 2) and range from 10 to 68 ppm. The 95% UCL calculated for 0-0.15 meter interval along Route 505 (759 ppm) is relatively higher than the mean concentration for that interval but is still much lower than the 1575 ppm allowed by the DTSC variance.

5.0 Conclusions

Caltrans is planning to lengthen four existing passing lane segments along three segments of Route 12. Caltrans is also planning to install traffic signals and lighting at the northbound Route 505 ramps with Vaca Valley Parkway. A portion of the off-ramp is to be widened to two lanes, and the eastbound approach of Vaca Valley Parkway will be widened to provide a left-turn lane into the on-ramp.

The objective of this investigation was to assess and evaluate the presence of lead within shallow soils in the project area to know how site soils may affect Caltrans planning. Twenty-eight borings were drilled and sampled along Route 12, and eleven borings were drilled and sampled along Route 505. Soil samples were collected for analysis of total and, where necessary, soluble lead.

The total lead concentrations ranged from 1.4 to 197 ppm along Route 12, and 4.4 to 510 ppm along Route 505. No total lead results exceeded the TTLC of 1,000 ppm. Only five soluble lead results exceeded 5 ppm; the samples were re-analyzed using a DI WET and the results ranged from 0.019 to 0.16 ppm. Seven populations of total lead were statistically evaluated. Six of the seven populations had a 95% UCL less than 69 ppm. The 0 to 0.15 meter interval along Route 505 had a 95% UCL of 759 ppm. The DTSC variance to Caltrans allows soil under 1,575 ppm to be re-used.

Based on lead results and statistical evaluation, shallow site soils (<0.9 meters) meet the criteria set forth in the variance issued to Caltrans by the Department of Toxics and Substance Control (DTSC) and may be re-used within the project area if Caltrans so chooses.

6.0 References

Caltrans (California Department of Transportation, District 4), 1999, California Department of Transportation, District 4, Office of Environmental Engineering, Task Order 04-OT0301-ET, dated March 31, 1999, 8p.

Caltrans, 1998, Memorandum on Guidance for Conducting Statistical Evaluation of Lead Data, Noise, Air, and Hazardous Waste Management Office, February 4, 1998.

Gilbert, R.O., "Statistical Methods for Environmental Pollution Monitoring", Van Nostrand Reinhold, New York, New York, 1987.

IT Corporation, 1998, *Site Investigation Report, Route 12/113 Interchange, Solano County, California*, prepared for Caltrans Task Order 04-244201-EP, Contract 43Y097, December 30, 1998, (IT Corp., 1998).

IT Corporation, 1999a, *Work Plan, Environmental Site Investigation, Route 12 and Route 505 Solano County, California*, prepared for Caltrans Task Order 04-OT0301-ET, Contract 43A0012, June 17, 1999, (IT Corp., 1999a).

IT Corporation, 1999b, *Health and Safety Plan, Environmental Site Investigation, Route 12 and Route 505, Solano County, California*, prepared for Caltrans Task Order 04-OT0301-ET, Contract 43A0012, June 17, 1999, (IT Corp., 1999b).

USEPA, 1992, "Supplemental Guidance to RAGS: Calculating the Concentration Term", (OSWER Directive 9285.7-0?), May, 1992.

Tables

TABLE 1
INORGANIC RESULTS - SOIL
 Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth in meters (feet)	Lead				9045 pH
			Total	WET	DI WET	TCLP	
12	B-1	0.15 (0.5)	8.9				6.4
		0.3 (1)	6.4				
		0.6 (2)	4.0				
		0.9 (3)	5.0				
	B-2	0.15 (0.5)	10				
		0.3 (1)	56	3.5			
	B-3	0.15 (0.5)	6.7				
		0.3 (1)	4.9				
		0.6 (2)	9.1				
		0.9 (3)	5.2				
	B-4	0.15 (0.5)	29				
	B-5	0.15 (0.5)	12				
		0.3 (1)	11				
		0.6 (2)	7.4				
		0.9 (3)	6.5				
	B-6	0.15 (0.5)	3.0				
		0.3 (1)	4.1				
		0.6 (2)	5				
		0.9 (3)	5.6				
	B-7	0.15 (0.5)	6.9				
		0.3 (1)	3.6				
		0.6 (2)	4.1				
		0.9 (3)	3.6				
	B-8	0.15 (0.5)	3.2				
		0.3 (1)	4.8				
		0.6 (2)	1.4				
		0.9 (3)	4.8				
	B-9	0.15 (0.5)	15				6.4
		0.3 (1)	25				
		0.6 (2)	30				
		0.9 (3)	5.5				
	B-10	0.15 (0.5)	82	2.5			
		0.3 (1)	47				
		0.6 (2)	11				
		0.9 (3)	7.4				
	B-11	0.15 (0.5)	16				
		0.3 (1)	85	2.9			
		0.6 (2)	9.5				
		0.9 (3)	8				
	B-12	0.15 (0.5)	11.0				
		0.3 (1)	9.5				
		0.6 (2)	8.1				
		0.9 (3)	6.3				
	B-13	0.15 (0.5)	66	1.5			
		0.3 (1)	62	2.2			
		0.6 (2)	12				
		0.9 (3)	7.4				
	B-14	0.15 (0.5)	88	2.7			
		0.3 (1)	22				
		0.6 (2)	7.8				
		0.9 (3)	6.8				

TABLE 1
INORGANIC RESULTS - SOIL
 Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth in meters (feet)	Lead				9045 pH
			Total	WET	DI WET	TCLP	
Route 12 Continued	B-15	0.15 (0.5)	26				
		0.3 (1)	71	2.2			
		0.6 (2)	16				
		0.9 (3)	6.8				
	B-16	0.15 (0.5)	20				
		0.3 (1)	62	1.4			
		0.6 (2)	24				
		0.9 (3)	5.5				6.5
	B-17	0.15 (0.5)	47				
		0.3 (1)	34			ND<0.05	
		0.6 (2)	140	1.5			
		0.9 (3)	19				
	B-18	0.15 (0.5)	112	7.1	0.026	0.17	
		0.3 (1)	63	1.1			
		0.6 (2)	89	0.52			
		0.9 (3)	12				
	B-19	0.15 (0.5)	26				
		0.3 (1)	30			0.075	
		0.6 (2)	197	1.4			
		0.9 (3)	27				
	B-20	0.15 (0.5)	31				
		0.3 (1)	8.6				
		0.6 (2)	6.7				
		0.9 (3)	5.9			0.2	
	B-21	0.15 (0.5)	150	4.6			
		0.3 (1)	97	1.5			
		0.6 (2)	11				
		0.9 (3)	7.1				
	B-22	0.15 (0.5)	52	1.8			
		0.3 (1)	32				
		0.6 (2)	13				
		0.9 (3)	7.6				
	B-23	0.15 (0.5)	24				
		0.3 (1)	14				
		0.6 (2)	13				
		0.9 (3)	9.4				
	B-24	0.15 (0.5)	54	2.9			
		0.3 (1)	16				
		0.6 (2)	10				
		0.9 (3)	22				
	B-25	0.15 (0.5)	36				
		0.3 (1)	37				
		0.6 (2)	51	2.1			
		0.9 (3)	15				
	B-26	0.15 (0.5)	8.4				
		0.3 (1)	5.6			0.065	
		0.6 (2)	105	0.93			
		0.9 (3)	27				
	B-27	0.15 (0.5)	81	8.9	0.019		
		0.3 (1)	16				
		0.6 (2)	21				
		0.9 (3)	25				
	B-28	0.15 (0.5)	30				
		0.3 (1)	20				6.6
		0.6 (2)	30				
		0.9 (3)	11				

TABLE 1
INORGANIC RESULTS - SOIL
 Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth in meters (feet)	Lead				9045 pH
			Total	WET	DI WET	TCLP	
Route 505	B-1	0.15 (0.5)	510	24	0.16	2.2	
		0.3 (1)	6.9				
		0.6 (2)	11				
	B-2	0.15 (0.5)	133	13	0.085	0.77	6.5
		0.3 (1)	5.5				
		0.6 (2)	7.0				
	B-3	0.15 (0.5)	255	18	0.11	1.3	
		0.3 (1)	5.8				
		0.6 (2)	7.3				
	B-4	0.15 (0.5)	12				
		0.3 (1)	6.6				
		0.6 (2)	6.2				
	B-5	0.15 (0.5)	21				
		0.3 (1)	9.4				
		0.6 (2)	9.7				
	B-6	0.15 (0.5)	17				
		0.3 (1)	5.9				6.6
		0.6 (2)	7.4				
	B-7	0.15 (0.5)	56	1.0			
		0.3 (1)	10				
		0.6 (2)	11				
	B-8	0.15 (0.5)	68	3.5			6.7
		0.3 (1)	15				
		0.6 (2)	10				
	B-9	0.15 (0.5)	7.0				
		0.3 (1)	16				
		0.6 (2)	11				
	B-10	0.15 (0.5)	7.9				
		0.3 (1)	5.8				
		0.6 (2)	6.3				6.6
	B-11	0.15 (0.5)	7.6				
		0.3 (1)	6.7				
		0.6 (2)	4.4				
TTLC			1000				
10X STLC			50				
STLC				5	5	5	
TCLP			100				
PRG							
Reporting Limit			1	0.05	0.01	0.05	NA

Notes:

1. TTLC = total threshold limit concentration. STLC = soluble threshold limit concentration. WET = waste extraction test. TCLP = toxicity characteristic leaching procedure. DI WET = waste extraction test using deionized water.
2. Sample depths reported in approximate meters (m) / feet (ft) below the ground surface.
3. WET conducted in general accordance with California Title 22 procedures. TCLP extraction and metals analyses conducted in general accordance with U.S. Environmental Protection Agency methods.
4. Total metal results reported in milligrams per kilogram. WET and TCLP results reported in milligrams per liter.
5. ND = not detected in concentrations exceeding the listed reporting limit.
6. Soil samples labeled as follows: 12B1-0.3 - Route 12, boring B-1, 0.3-meter depth.
7. 10X STLC = 10 times the Soluble Threshold Limit Concentration. Values listed in milligrams per liter.
8. PRG = preliminary remediation goal (1998) for residential soil in mg/kg.
9. For total lead results, bold results equal or exceed 10X STLC values. Bold and italics results equal or exceed the TTLC.
10. For WET and TCLP results, bold results exceed the STLC or TCLP.

0.5-ft samples

2-ft samples

1-ft
samples

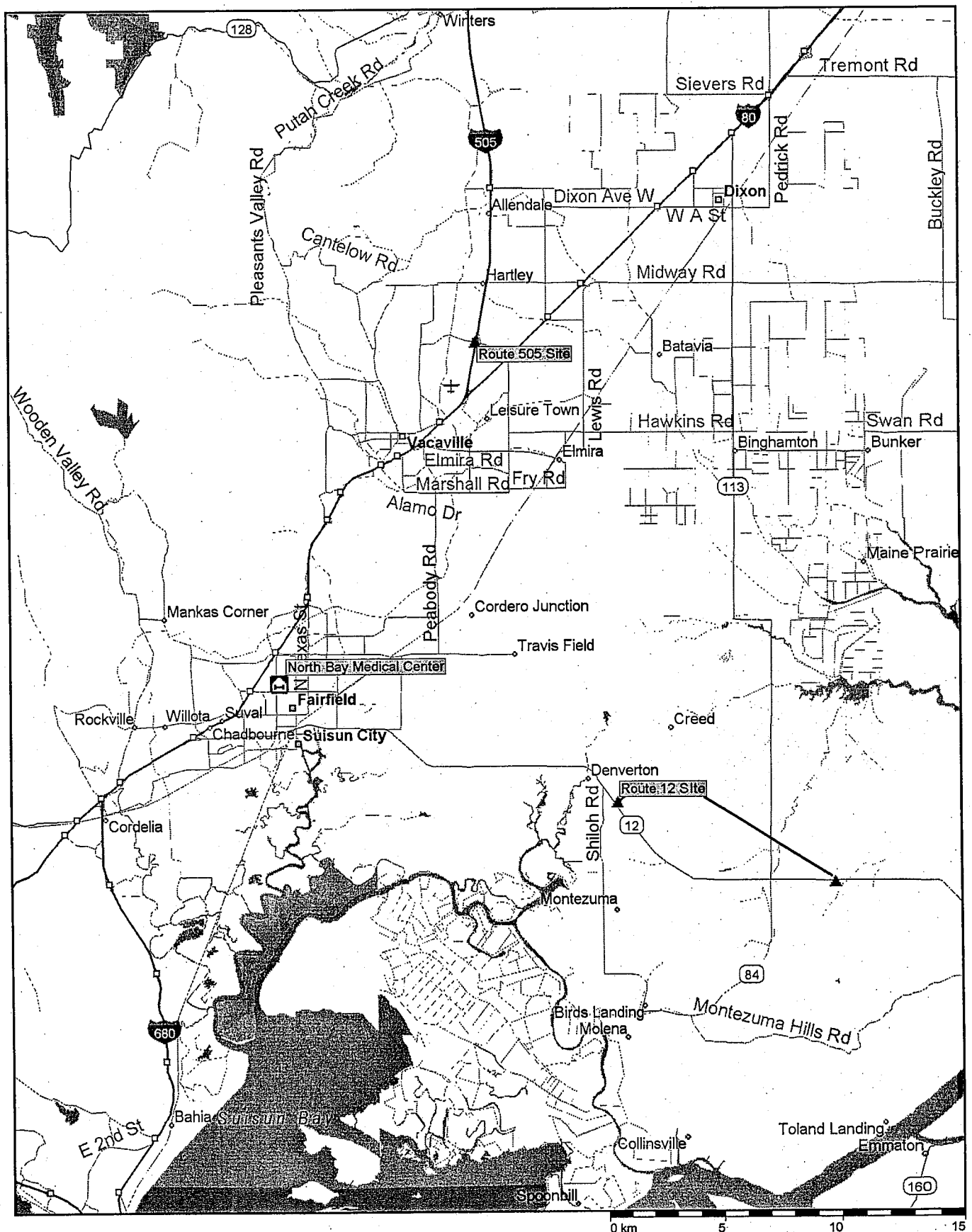
3-ft samples

TABLE 2
LEAD STATISTICAL ANALYSES
Caltrans - Route 12 and Route 505 Investigations

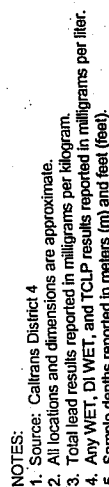
	Total Lead ppm	Total Lead LN(X)	Soluble Lead ppm			Total Lead ppm	Total Lead LN(X)	Soluble Lead ppm
Route 505					Route 505			
Boring Location	0.15 m				Boring Location	0.3 m		
B1	510	6.23	2.2		B1	6.9	1.93	
B2	133	4.89	0.77		B2	5.5	1.70	
B3	255	5.54	1.3		B3	5.8	1.76	
B4	12	2.48			B4	6.6	1.89	
B5	21	3.04			B5	9.4	2.24	
B6	17	2.83			B6	5.9	1.77	
B7	56	4.03	1.0		B7	10	2.30	
B8	68	4.22	3.5		B8	15	2.71	
B9	7.0	1.95			B9	16	2.77	
B10	7.9	2.07			B10	5.8	1.76	
B11	7.6	2.03			B11	6.7	1.90	
Lognormal Population					Lognormal Population			
Characterization					Characterization			
mean	99.50	3.57			mean	8.51	2.07	
std dev	155.79	1.50			std dev	3.76	0.38	
H (0.95) for UCL		4.05			H (0.95) for UCL		2.03	
number of samples	11				number of samples	11		
95% UCL	758.99				95% UCL	10.89		
	Total Lead	Total Lead	Soluble Lead					
Route 505	ppm	LN(X)	ppm					
Boring Location	0.6 m							
B1	11	2.40						
B2	7.0	1.95						
B3	7.3	1.99						
B4	6.2	1.82						
B5	9.7	2.27						
B6	7.4	2.00						
B7	11	2.40						
B8	10	2.30						
B9	11	2.40						
B10	6.3	1.84						
B11	4.4	1.48						
Lognormal Population								
Characterization								
mean	8.30	2.08						
std dev	2.32	0.30						
H (0.95) for UCL		1.95						
number of samples	11							
95% UCL	10.05							
Notes:								
ppm = parts per million								
0-0.15 m = sample depth in meters below ground surface.								
LN(X) = natural log of total lead concentration.								
Total Lead = reported concentration from EPA method 6010 in milligrams per kilogram, equivalent to ppm.								
Soluble Lead = reported concentration from Waste Extraction Test (WET) method. Bold and Italic result is reported from the Toxicity Leaching Characteristic Procedure (TCLP). Values in milligrams per liter (mg/l) equivalent to ppm.								
mean = arithmetic mean								
stdev = standard deviation								
H(0.95) for UCL = H value for calculation of one-sided 95% Upper Confidence Level for a lognormal distribution (Gilbert, 1987).								
95% UCL = 95% Upper Confidence Level. Interpreted as a 95% confidence that the true mean for a given population is no higher than the calculated value.								

Figures

FIGURE 1
SITE LOCATION MAP
 Caltrans - Route 12 and 505 Projects



Source: Microsoft Expedia Streets 98



Depth m (ft)	Lead	
	Total	TCLP
0.15 (0.5)	29	

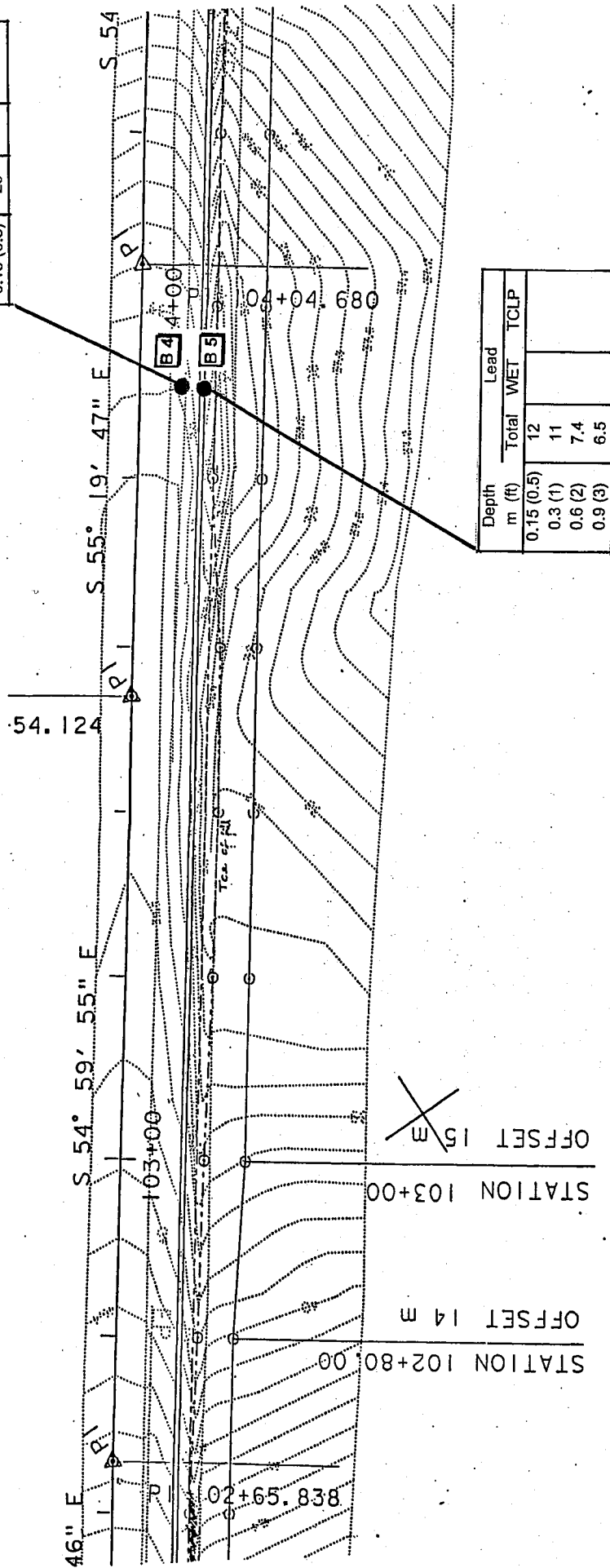


FIGURE 3
BORING LOCATION MAP

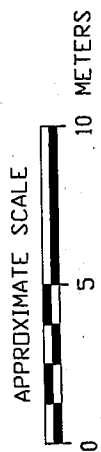
ROUTE 12

PREPARED FOR

CAL TRANS

T.D. 04-QT0301-ET

INTERNATIONAL
TECHNOLOGY
CORPORATION



- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).

Boring Number	Depth in m (ft)	Lead	
		Total	WET TCLP
B-6	0.15 (0.5)	3.0	
	0.3 (1)	4.1	
	0.6 (2)	5	
	0.9 (3)	5.6	

Boring Number	Depth in m (ft)	Lead	
		Total	WET TCLP
B-8	0.15 (0.5)	3.2	
	0.3 (1)	4.8	
	0.6 (2)	1.4	
	0.9 (3)	4.8	

Boring Number	Depth in m (ft)	Lead	
		Total	WET TCLP
B-7	0.15 (0.5)	6.9	
	0.3 (1)	3.6	
	0.6 (2)	4.1	
	0.9 (3)	3.6	

PI 105+20.280

PI 104+75.294

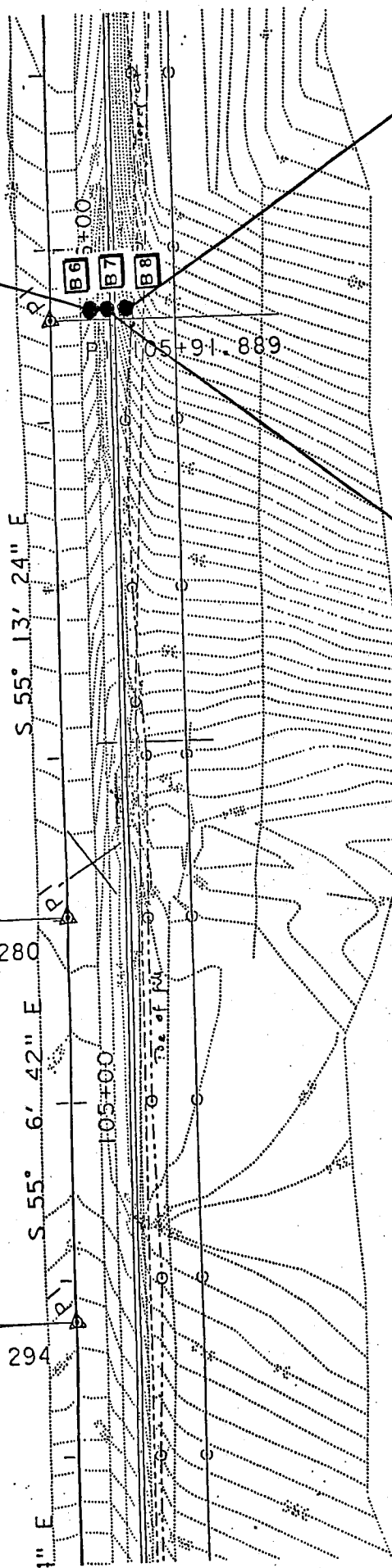


FIGURE 4

BORING LOCATION MAP

ROUTE 12

PREPARED FOR

CAL TRANS

T.D. 04-010301-ET

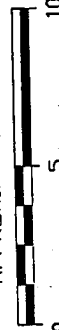
INTERNATIONAL

TECHNOLOGY

CORPORATION

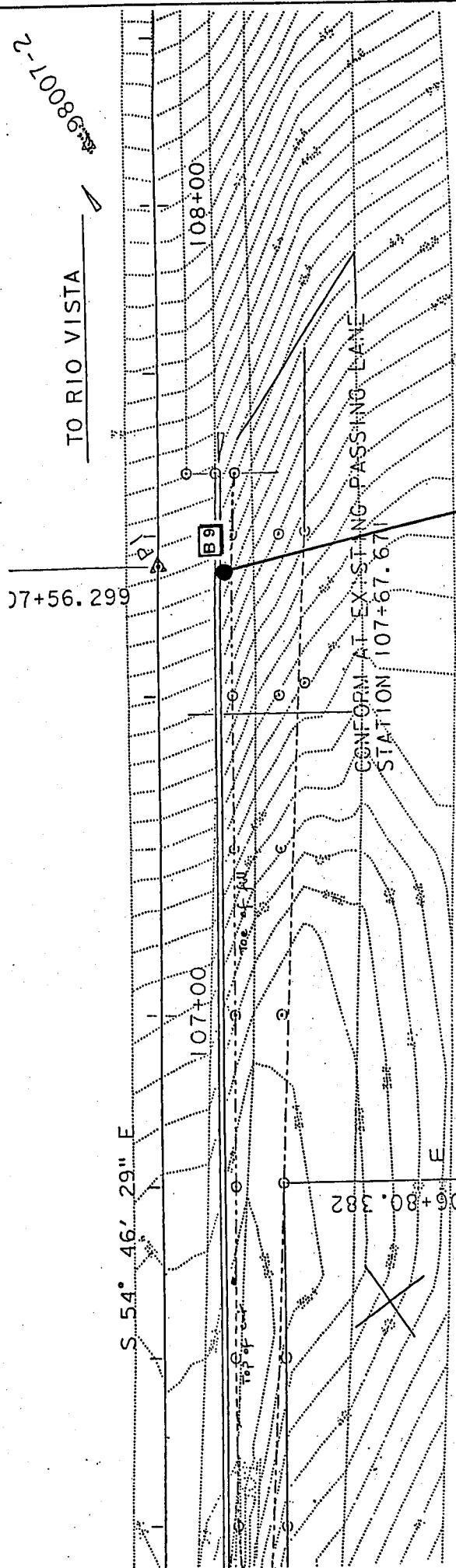


APPROXIMATE SCALE



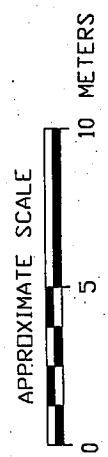
NOTES:

1. Source: Caltrans District 4
2. All locations and dimensions are approximate.
3. Total lead results reported in milligrams per kilogram.
4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
5. Sample depths reported in meters (m) and feet (feet).



Boring Number	Depth in m (ft)	Lead	
		Total	WET TCLP
B-9	0.15 (0.5)	15	
	0.3 (1)	25	
	0.6 (2)	30	
	0.9 (3)	5.5	

FIGURE 5
BORING LOCATION MAP
ROUTE 12
PREPARED FOR
CALTRANS
T.O. 04-DT0301-ET
INTERNATIONAL
TECHNOLOGY
CORPORATION



- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).

Boring Number	Depth in m (ft)	Lead	
		Total	WET
B-10	0.15 (0.5)	82	2.5
	0.3 (1)	47	
	0.6 (2)	11	
	0.9 (3)	7.4	

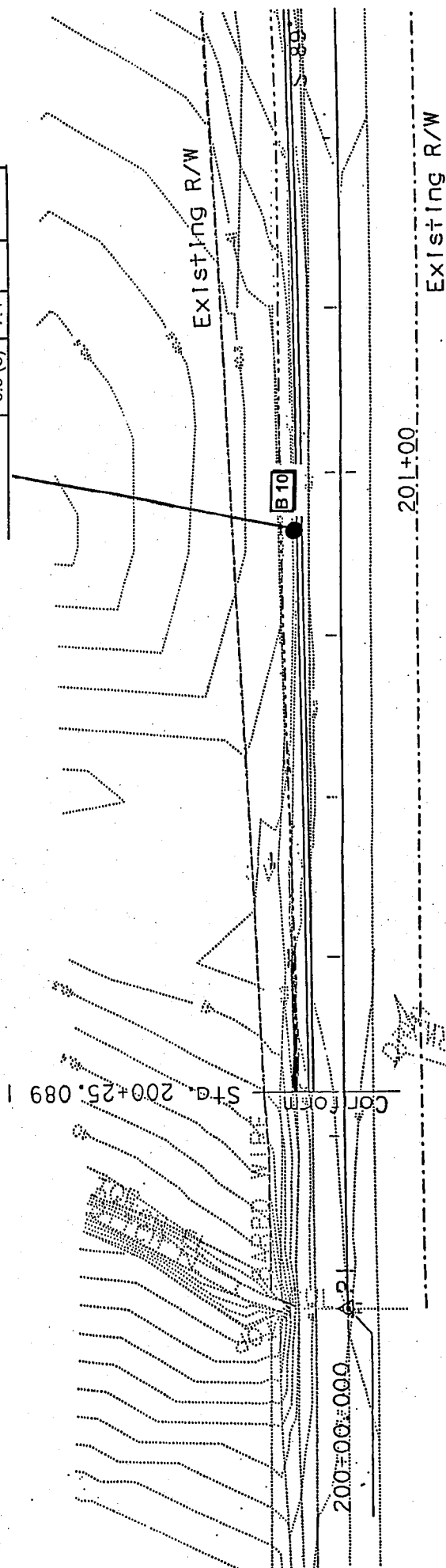


FIGURE 6
BORING LOCATION MAP

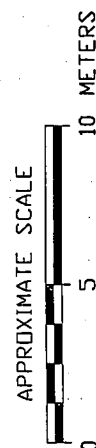
ROUTE 12

PREPARED FOR

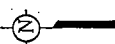
CAL TRANS

T.O. 04-DT0301-ET

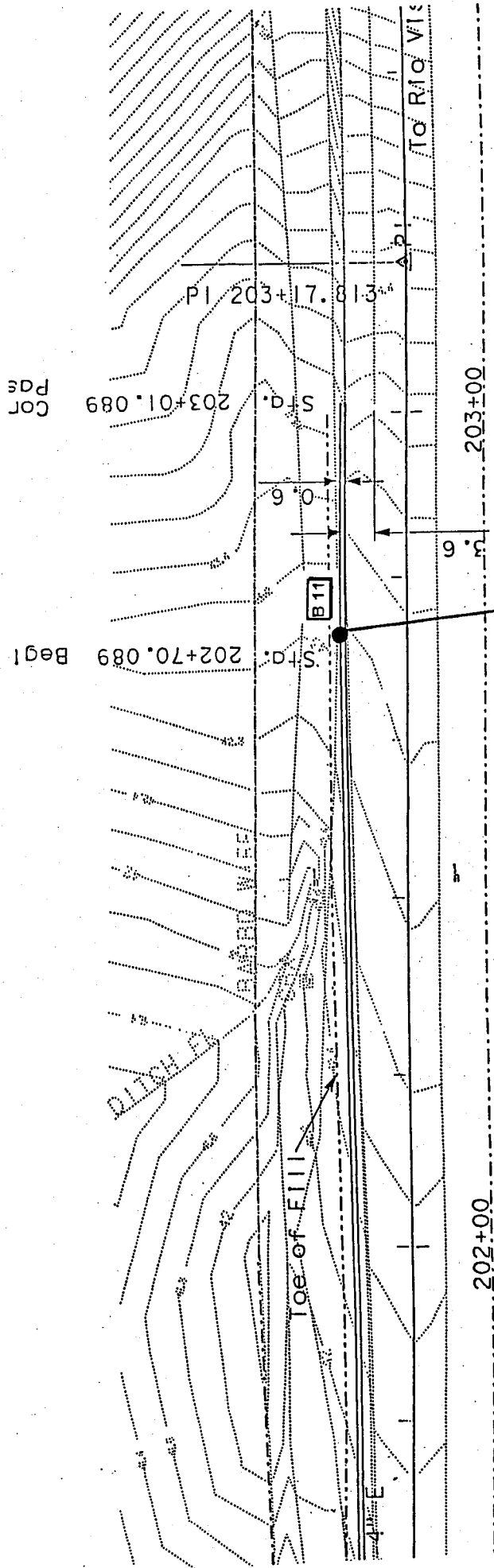
INTERNATIONAL
TECHNOLOGY
CORPORATION



APPROXIMATE SCALE

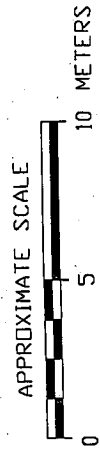


- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).



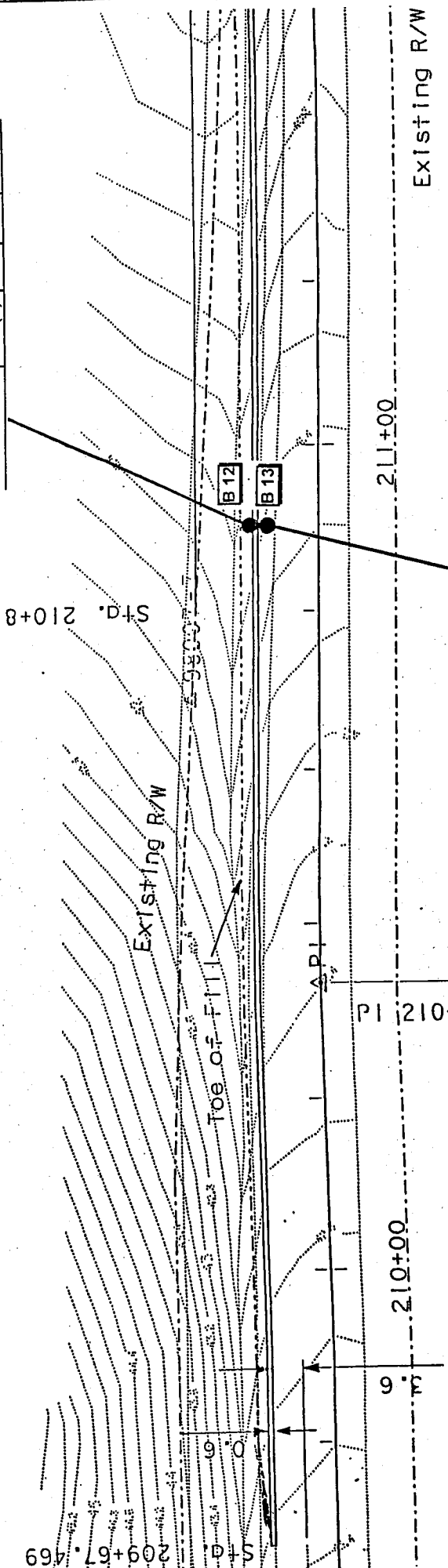
Boring Number	Depth in m (ft)	Lead		
		Total	WET	TCLP
B-11	0.15 (0.5)	16		
	0.3 (1)	85	2.9	
	0.6 (2)	9.5		
	0.9 (3)	8		

FIGURE 7
BORING LOCATION MAP
ROUTE 12
PREPARED FOR
CAL TRANS
T.D. 04-UT0301-ET
INTERNATIONAL
TECHNOLOGY
CORPORATION



- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).

Boring Number	Depth in m (ft)	Lead	
		Total	WET TCLP
B-12	0.15 (0.5)	11.0	
	0.3 (1)	9.5	
	0.6 (2)	8.1	
	0.9 (3)	6.3	



Boring Number	Depth in m (ft)	Lead	
		Total	WET TCLP
B-13	0.15 (0.5)	66	1.5
	0.3 (1)	62	2.2
	0.6 (2)	12	
	0.9 (3)	7.4	

FIGURE 8
BORING LOCATION MAP

ROUTE 12

PREPARED FOR

CAL TRANS

T.D. 04-DT0301-ET

INTERNATIONAL

TECHNOLOGY

CORPORATION

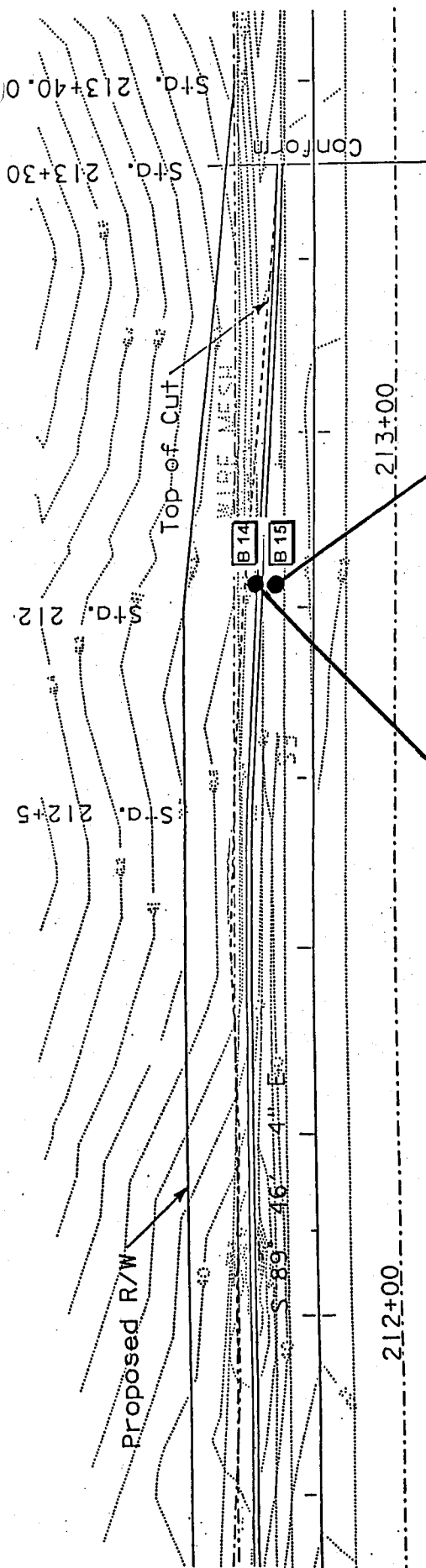


APPROXIMATE SCALE



NOTES:

1. Source: Caltrans District 4
2. All locations and dimensions are approximate.
3. Total lead results reported in milligrams per kilogram.
4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
5. Sample depths reported in meters (m) and feet (feet).



Boring Number	Depth in m (ft)	Lead	
		Total	WET
B-15	0.15 (0.5)	26	
	0.3 (1)	71	2.2
	0.6 (2)	16	
	0.9 (3)	6.8	

Boring Number	Depth in m (ft)	Lead	
		Total	WET
B-14	0.15 (0.5)	88	2.7
	0.3 (1)	22	
	0.6 (2)	7.8	
	0.9 (3)	6.8	

FIGURE 9
BORING LOCATION MAP

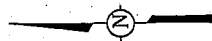
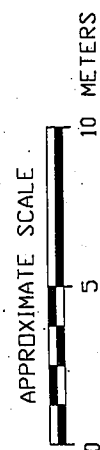
ROUTE 12

PREPARED FOR

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TECHNOLOGY
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NOTES:

1. Source: Caltrans District 4
2. All locations and dimensions are approximate.
3. Total lead results reported in milligrams per kilogram.
4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
5. Sample depths reported in meters (m) and feet (feet).

TO SUISUN CITY

2° 39' 48" E

PI 309+40.440

B 16

SECTION 309+85.468
SET 16.2 m

Boring Number	Depth in m (ft)	Lead	
		Total	WET TCLP
B-16	0.15 (0.5)	20	
	0.3 (1)	62	1.4
	0.6 (2)	24	
	0.9 (3)	5.5	

- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).

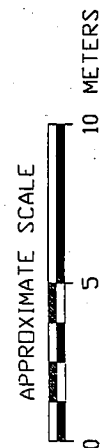


FIGURE 10
BORING LOCATION MAP

ROUTE 12
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Boring Number	Depth in m (ft)	Lead		
		Total	WET	TCLP
B-18	0.15 (0.5)	112	7.1	0.026
	0.3 (1)	63	1.1	
	0.6 (2)	89	0.52	
	0.9 (3)	12		

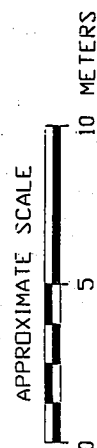
Boring Number	Depth in m (ft)	Lead		
		Total	WET	TCLP
B-17	0.15 (0.5)	47		
	0.3 (1)	34		
	0.6 (2)	140		ND<0.05
	0.9 (3)	19		

Boring Number	Depth in m (ft)	Lead		
		Total	WET	TCLP
B-20	0.15 (0.5)	31		
	0.3 (1)	8.6		
	0.6 (2)	6.7		
	0.9 (3)	5.9		

Boring Number	Depth in m (ft)	Lead		
		Total	WET	TCLP
B-19	0.15 (0.5)	26		
	0.3 (1)	30		
	0.6 (2)	197		0.075
	0.9 (3)	27		

FIGURE 11
BORING LOCATION MAP
ROUTE 12

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CORPORATION



- NOTES:
- Source: Caltrans District 4
 - All locations and dimensions are approximate.
 - Total lead results reported in milligrams per kilogram.
 - Any WET, DI WET, and TCLP results reported in milligrams per liter.
 - Sample depths reported in meters (m) and feet (feet).

STATION 314+23.698
CONFORM EXISTING
PASSING LANE

N 89° 26' 41" E

STATION 313+14.698
BEGIN TAPER

B-21

B-22

Boring Number	Depth in m (ft)	Lead		
		Total	WET	TCLP
B-21	0.15 (0.5)	150		0.2
	0.3 (1)	97	1.5	
	0.6 (2)	11		
	0.9 (3)	7.1		

Boring Number	Depth in m (ft)	Lead		
		Total	WET	TCLP
B-22	0.15 (0.5)	52	1.8	
	0.3 (1)	32		
	0.6 (2)	13		
	0.9 (3)	7.6		

FIGURE 12
BORING LOCATION MAP
ROUTE 12

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- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).

FIGURE 13
BORING LOCATION MAP

ROUTE 12

PREPARED FOR

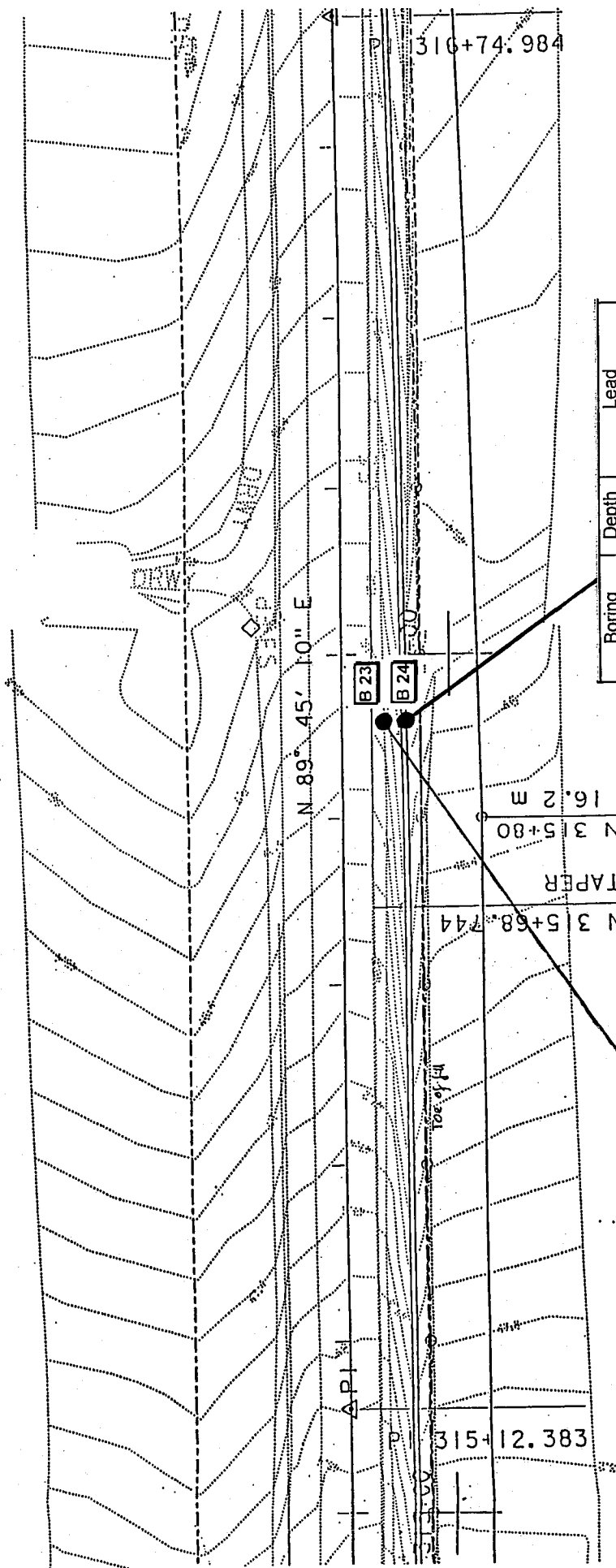
CAL TRANS

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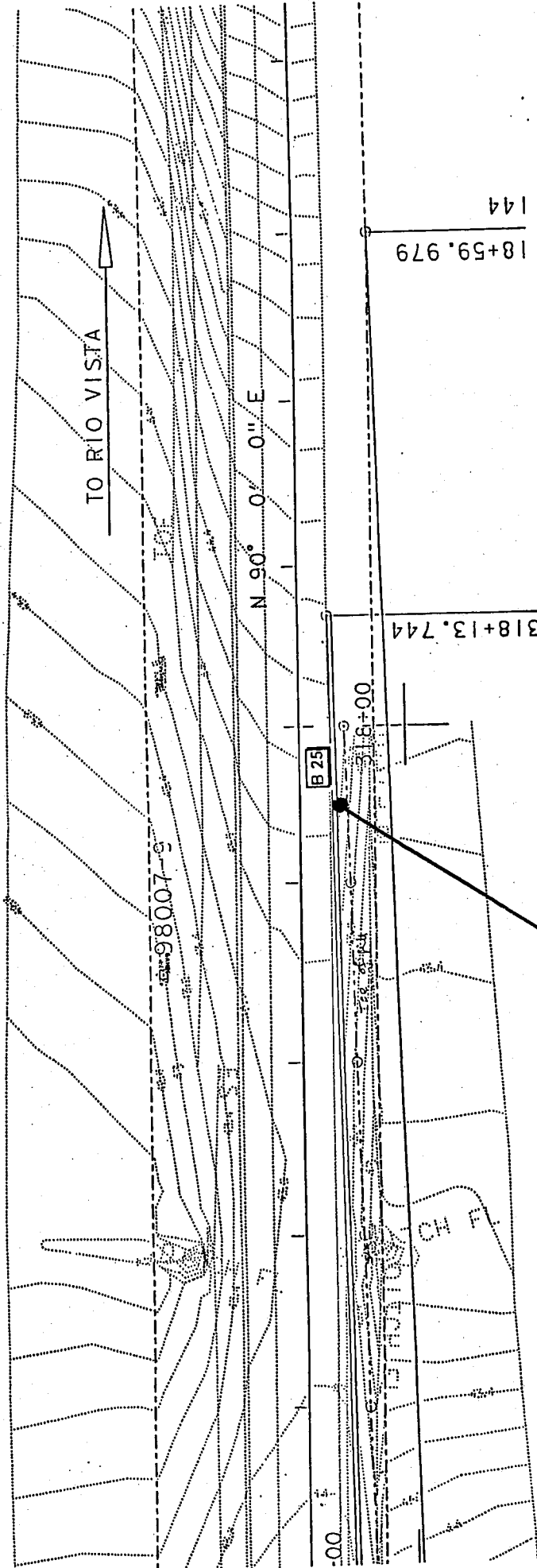


- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).



Boring Number	Depth in m (ft)	Lead	
		Total	TCLP
B-24	0.15 (0.5)	54	2.9
	0.3 (1)	16	
	0.6 (2)	10	
	0.9 (3)	22	

Boring Number	Depth in m (ft)	Lead	
		Total	TCLP
B-23	0.15 (0.5)	24	
	0.3 (1)	14	
	0.6 (2)	13	
	0.9 (3)	9.4	

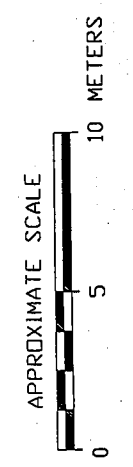


18+59.979
144

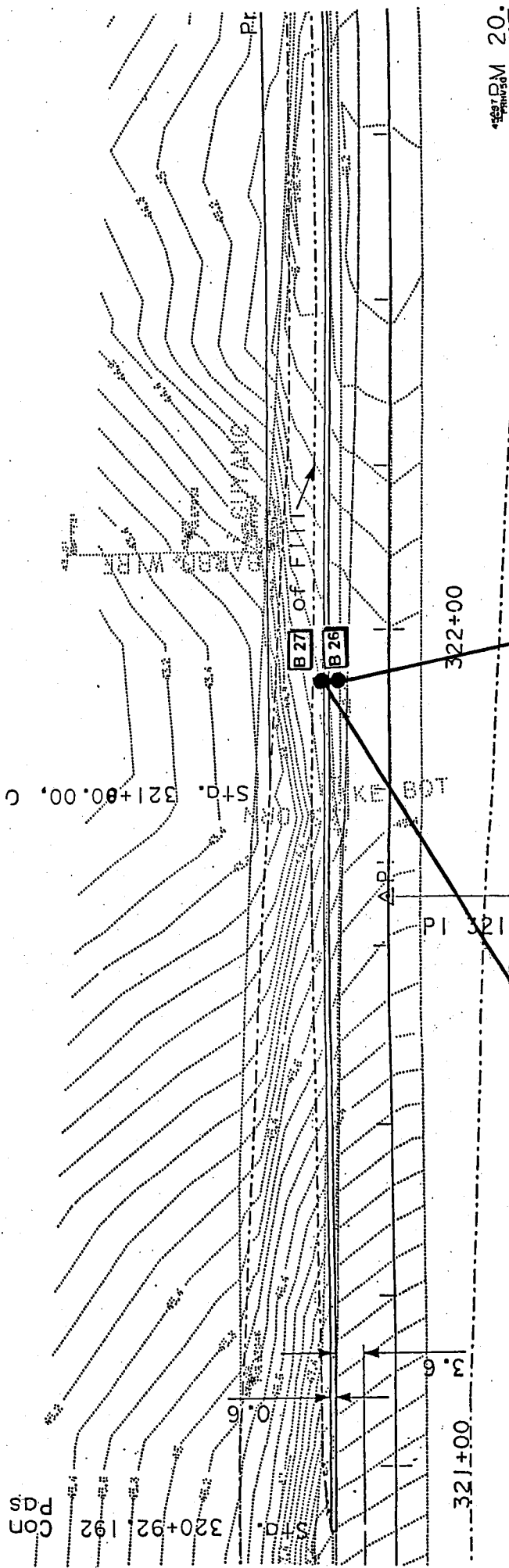
318+13.744

Boring Number	Depth in m (ft)	Lead	
		Total	TCLP
B-25	0.15 (0.5)	36	
	0.3 (1)	37	
	0.6 (2)	51	2.1
	0.9 (3)	15	

FIGURE 14
BORING LOCATION MAP
ROUTE 12
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INTERNATIONAL
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- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).



Boring Number	Depth m(ft)	Lead			
		Total	WET	DI	WET TCLP
B-27	0.15 (0.5)	81	8.9	0.019	
	0.3 (1)	16			
	0.6 (2)	21			
	0.9 (3)	25			

Boring Number	Depth in m (ft)	Lead	
		Total	WET TCLP
B-26	0.15 (0.5)	8.4	
	0.3 (1)	5.6	
	0.6 (2)	105	0.065
	0.9 (3)	27	

- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).

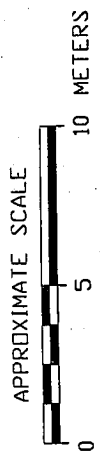
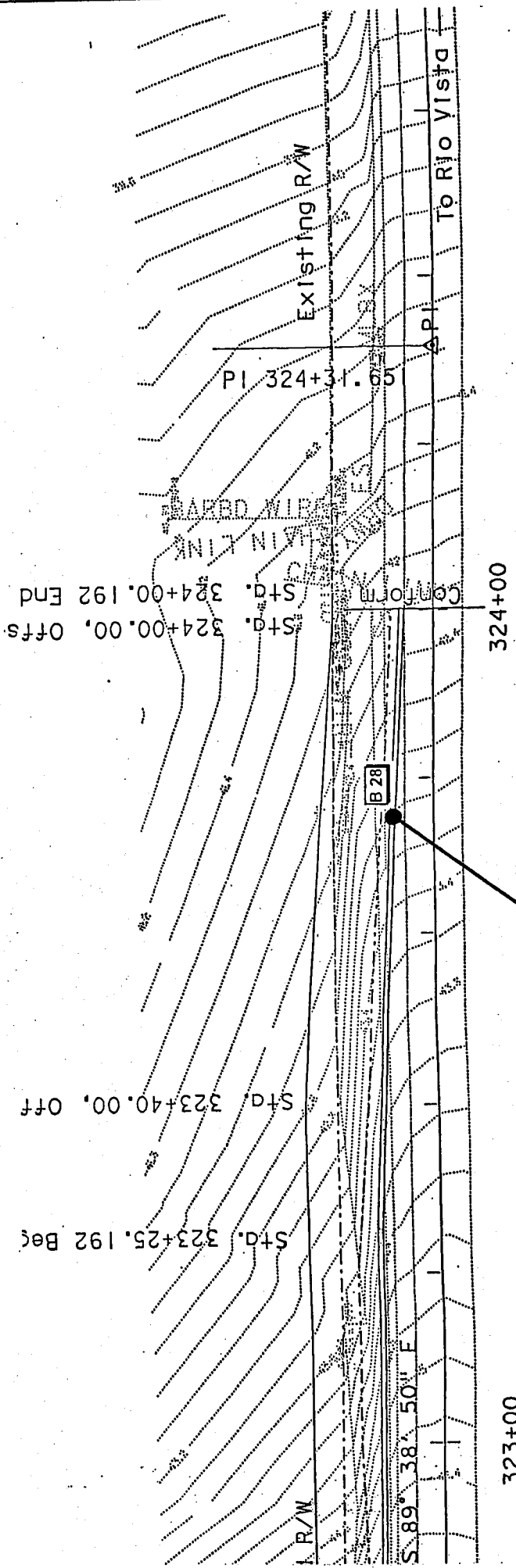


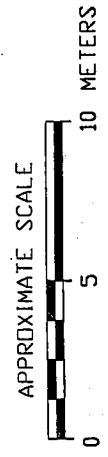
FIGURE 15
BORING LOCATION MAP
ROUTE 12
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CALTRANS
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Boring Number	Depth in m (ft)	Lead	
		Total	TCLP
B-28	0.15 (0.5)	30	
	0.3 (1)	20	
	0.6 (2)	30	
	0.9 (3)	11	

FIGURE 16
BORING LOCATION MAP
ROUTE 12
PREPARED FOR
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T.D. 04-DT0301-ET
INTERNATIONAL
TECHNOLOGY
CORPORATION



- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).

ATTACHMENT H-2 Boring Site Map (EA 254001)

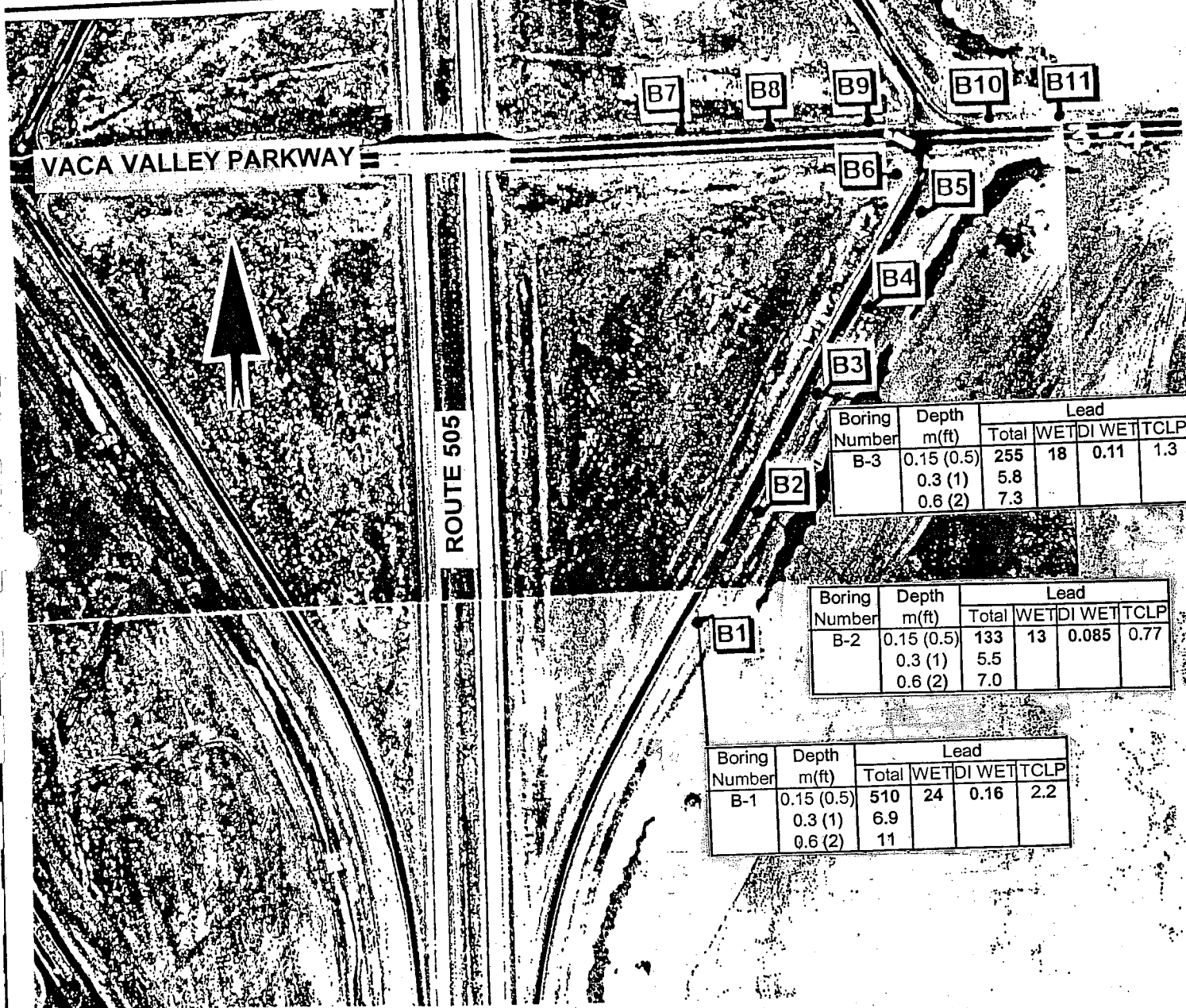


FIGURE 17
BORING LOCATION MAP
ROUTE 505
PREPARED FOR
CAL TRANS
T.O. 04-0T0301-ET

IT INTERNATIONAL
TECHNOLOGY
CORPORATION

- NOTES:
1. Source: Caltrans District 4
 2. All locations and dimensions are approximate.
 3. Total lead results reported in milligrams per kilogram.
 4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
 5. Sample depths reported in meters (m) and feet (feet).

APPROXIMATE SCALE
0 30 60 METERS

ATTACHMENT H-2 Boring Site Map (EA 254001)

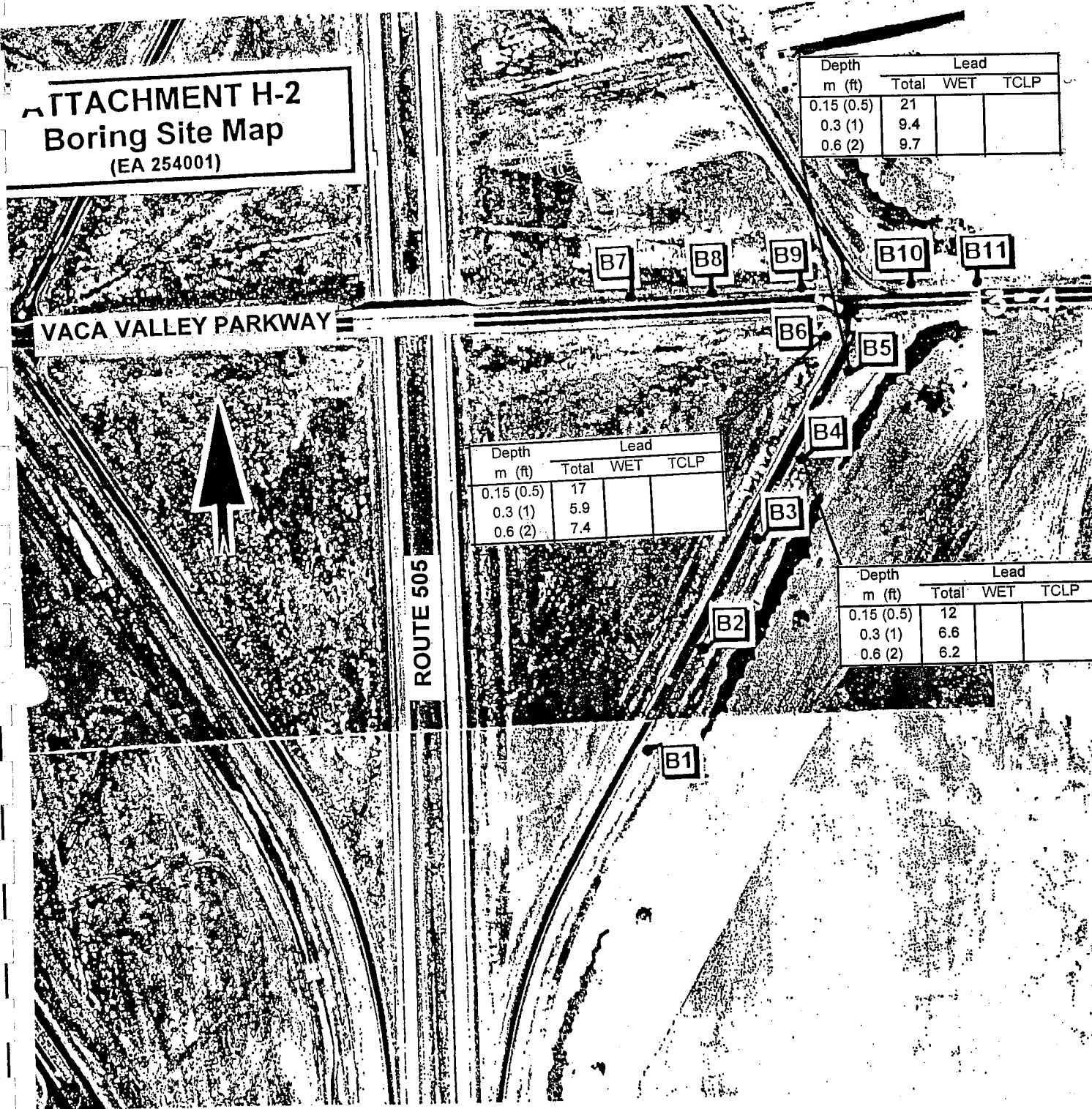


FIGURE 18
BORING LOCATION MAP
ROUTE 505
PREPARED FOR
CAL TRANS
T.O. 04-0T0301-ET

NOTES:

1. Source: Caltrans District 4
2. All locations and dimensions are approximate.
3. Total lead results reported in milligrams per kilogram.
4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
5. Sample depths reported in meters (m) and feet (feet).

APPROXIMATE SCALE



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ATTACHMENT H-2 Boring Site Map (EA 254001)

Depth m (ft)	Lead		
	Total	WET	TCLP
0.15 (0.5)	56	1.0	
0.3 (1)	10		
0.6 (2)	11		

Depth m (ft)	Lead		
	Total	WET	TCLP
0.15 (0.5)	7.0		
0.3 (1)	16		
0.6 (2)	11		

Depth m (ft)	Lead		
	Total	WET	TCLP
0.15 (0.5)	68	3.5	
0.3 (1)	15		
0.6 (2)	10		

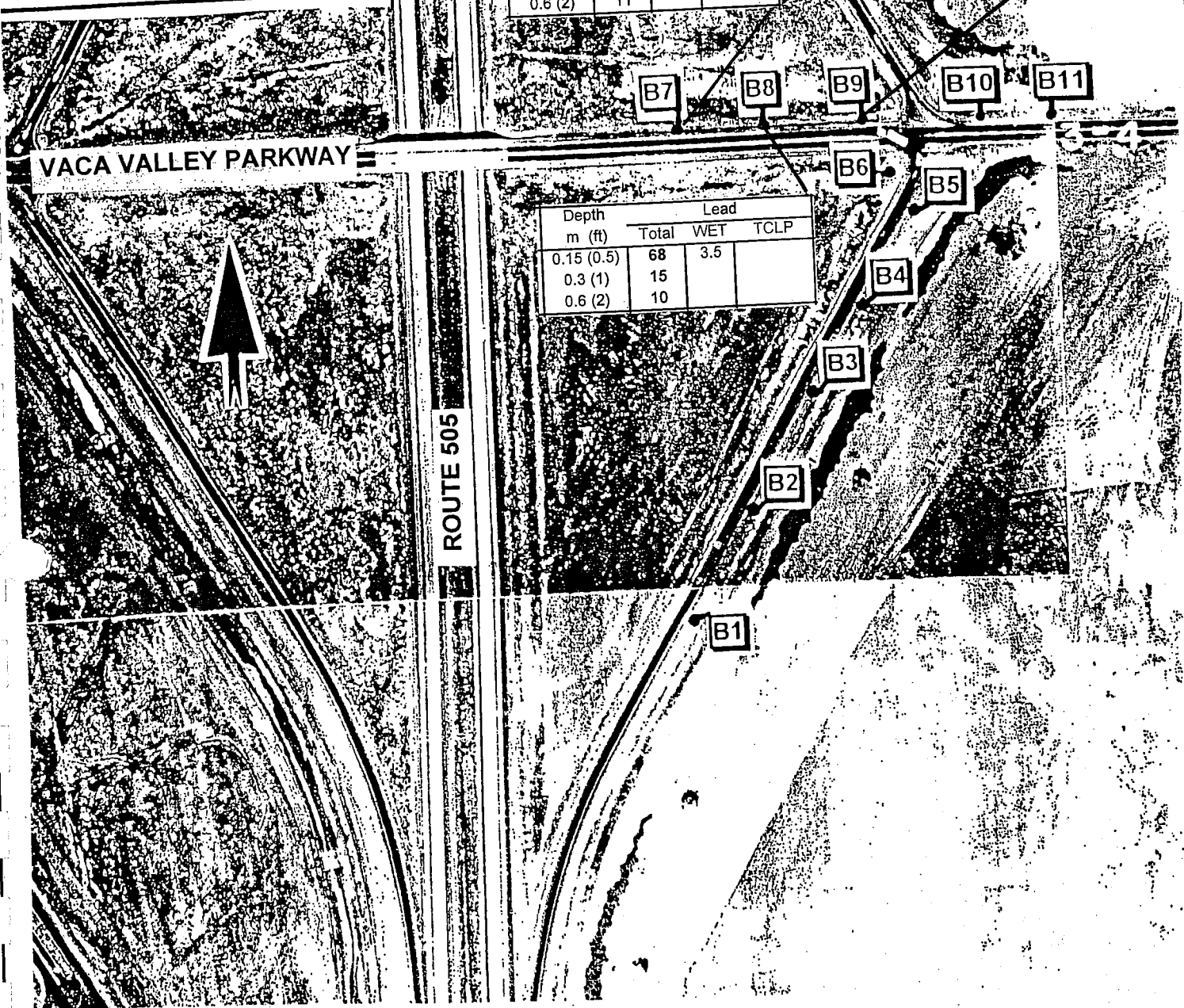


FIGURE 19
BORING LOCATION MAP
ROUTE 505
PREPARED FOR
CAL TRANS
T.O. 04-DT0301-ET

NOTES:

1. Source: Caltrans District 4
2. All locations and dimensions are approximate.
3. Total lead results reported in milligrams per kilogram.
4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
5. Sample depths reported in meters (m) and feet (feet).



APPROXIMATE SCALE

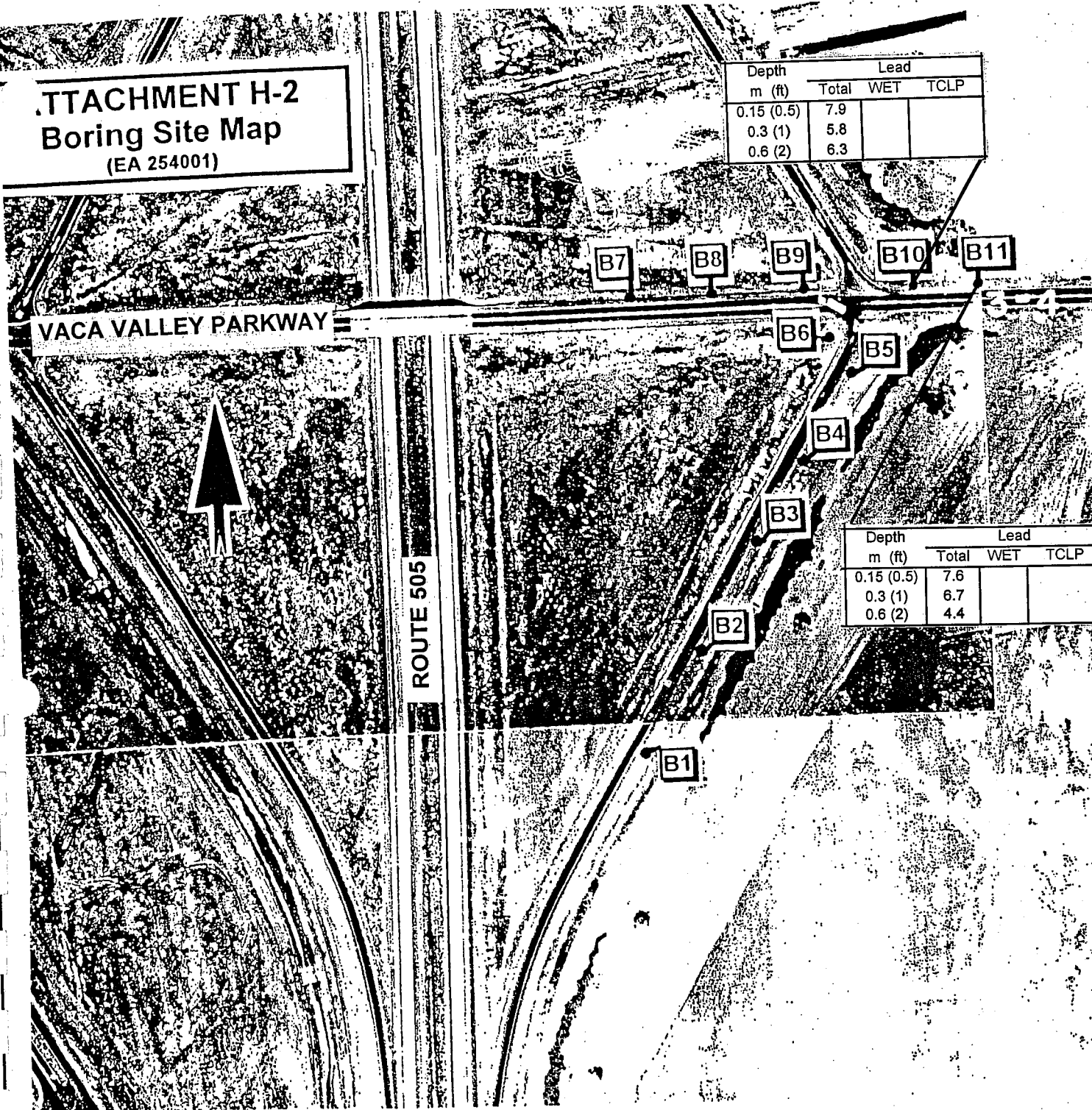


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ATTACHMENT H-2 Boring Site Map (EA 254001)

Depth m (ft)	Lead		
	Total	WET	TCLP
0.15 (0.5)	7.9		
0.3 (1)	5.8		
0.6 (2)	6.3		

Depth m (ft)	Lead		
	Total	WET	TCLP
0.15 (0.5)	7.6		
0.3 (1)	6.7		
0.6 (2)	4.4		



NOTES:

1. Source: Caltrans District 4
2. All locations and dimensions are approximate.
3. Total lead results reported in milligrams per kilogram.
4. Any WET, DI WET, and TCLP results reported in milligrams per liter.
5. Sample depths reported in meters (m) and feet (feet).



APPROXIMATE SCALE



FIGURE 20
BORING LOCATION MAP
ROUTE 505
PREPARED FOR
CAL TRANS
T.O. 04-0T0301-ET



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Appendix A

Permits

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
ENCROACHMENT PERMIT
TR-0120

Permit No.

0499-NSV1540

Dist/Co/Rte/PM

04-Sol-505 1.44

Date

June 16, 1999

Fee Paid

Deposit

\$

Performance Bond Amount (1)

Payment Bond Amount (2)

Bond Company

Bond Number (1)

Bond Number (2)

in compliance with (Check one):

☒ Your application of May 18, 1999

☐ Utility Notice No. _____ of _____

☐ Agreement No. _____ of _____

☐ R/W Contract No. _____ of _____

TO:

IT Corporation
11315 Sunrise Gold Circle, Suite A.
Rancho Cordova, CA 95742

Attn: R. David Smith

Phone: (916) 858 2350

, PERMITTEE

and subject to the following, **PERMISSION IS HEREBY GRANTED** to:

Perform hand-auger-drilled borings to collect soil and ground samples for testing and evaluation, along State Highway 04-Sol-505, Post Mile 1.44, in Vacaville, in the County of Solano.

Two days before work is started under this permit, notice shall be given to, and approval of construction details, operations, public safety, and traffic control shall be obtained from State Representative Ed Nail, 2019 West Texas Street, Fairfield, CA, 94533, 707-428-2004.

All soil boring and sampling operations shall be conducted off the traveled way.

When soil boring and sampling operations are being conducted, the permittee shall furnish, place and maintain signs and safety equipment in accordance with the latest edition of the "Manual of Traffic Controls for Construction and Maintenance Work Zones".

The following attachments are also included as part of this permit (Check applicable):

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	General Provisions
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Utility Maintenance Provisions
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Special Provisions
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	A Cal-OSHA permit required prior to beginning work:
		# _____

In addition to fee, the permittee will be billed actual costs for:

<input type="checkbox"/> Yes	<input type="checkbox"/> No	Review
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Inspection
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Field Work

(If any Caltrans effort expended)

☐ Yes ☒ No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before June 30, 1999

This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.

No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

APPROVED:

HARRY Y. YAHATA, District Director

BY:

G. J. BATTAGLINI, District Permit Engineer

NAME: IT Corporation
PERMIT #: 0499-NSV1540
DATE: June 16, 1999

Traffic control is not authorized. Shoulder may be closed, and closures will be as shown on the attached copy of standard plan sheet T-10.

The attached "Freeway TCS" is for shoulder closure only.

Workers shall not cross the traveled way of access-controlled highways.

Permittee's vehicle(s) shall not interfere with the free flow of traffic or pedestrians.

All personnel shall wear hard hats and orange or approved lime green colored vests, shirts or jackets as appropriate.

Any painted markings shall be made with water-soluble paint.

Permission is also granted to park vehicles temporarily within the State's right of way, while boring work is in progress.

Changes to the Permit Provisions are not allowed without prior approval from the State Representative.

Immediately following completion of the work permitted herein, the Permittee shall fill out and mail the Notice of Completion attached to this permit.

STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION
ENCROACHMENT PERMIT GENERAL PROVISIONS
TR-0045 (REV. 8/98)

1. **AUTHORITY:** The Department's authority to issue encroachment permits is provided under, Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.
2. **REVOCATION:** Encroachment permits are revocable on five days notice unless otherwise stated on the permit and except as provided by law for public corporations, franchise holders, and utilities. These General Provisions and the Encroachment Permit Utility Provisions are subject to modification or abrogation at any time. Permittees' joint use agreements, franchise rights, reserved rights or any other agreements for operating purposes in State highway right of way are exceptions to this revocation.
3. **DENIAL FOR NONPAYMENT OF FEES:** Failure to pay permit fees when due can result in rejection of future applications and denial of permits.
4. **ASSIGNMENT:** No party other than the permittee or permittee's authorized agent is allowed to work under this permit.
5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to accept these General Provisions and all attachments to this permit, for any work to be performed under this permit.
6. **BEGINNING OF WORK:** When traffic is not impacted (see Number 35), the permittee shall notify the Department's representative, two (2) days before the intent to start permitted work. Permittee shall notify the Department's Representative if the work is to be interrupted for a period of five (5) days or more, unless otherwise agreed upon. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit.
7. **STANDARDS OF CONSTRUCTION:** All work performed within highway right of way shall conform to recognized construction standards and current Department Standard Specifications, Department Standard Plans High and Low Risk Facility Specifications, and Utility Special Provisions. Where reference is made to "Contractor and Engineer," these are amended to be read as "Permittee and Department representative."
8. **PLAN CHANGES:** Changes to plans, specifications, and permit provisions are not allowed without prior approval from the State representative.
9. **INSPECTION AND APPROVAL:** All work is subject to monitoring and inspection. Upon completion of work, permittee shall request a final inspection for acceptance and approval by the Department. The local agency permittee shall not give final construction approval to its contractor until final acceptance and approval by the Department is obtained.
10. **PERMIT AT WORKSITE:** Permittee shall keep the permit package or a copy thereof, at the work site and show it upon request to any Department representative or law enforcement officer. If the permit package is not kept and made available at the work site, the work shall be suspended.
11. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work to ongoing, prior authorized, work adjacent to or within the limits of the project site. When existing encroachments conflict with new work, the permittee shall bear all cost for rearrangements, (e.g., relocation, alteration, removal, etc.).
12. **PERMITS FROM OTHER AGENCIES:** This permit is invalidated if the permittee has not obtained all permits necessary and required by law, from the Public Utilities Commission of the State of California (PUC), California Occupational Safety and Health Administration (Cal-OSHA), or any other public agency having jurisdiction.
13. **PEDESTRIAN AND BICYCLIST SAFETY:** A safe minimum passageway of 1.21 meter (4') shall be maintained through the work area at existing pedestrian or bicycle facilities. At no time shall pedestrians be diverted onto a portion of the street used for vehicular traffic. At locations where safe alternate passageways cannot be provided, appropriate signs and barricades shall be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street.
14. **PUBLIC TRAFFIC CONTROL:** As required by law, the permittee shall provide traffic control protection warning signs, lights, safety devices, etc., and take all other measures necessary for traveling public's safety. Day and night time lane closures shall comply with the Manuals of Traffic Controls, Standard Plans, and Standard

Specifications for traffic control systems. These General Provisions are not intended to impose upon the permittee, by third parties, any duty or standard of care, greater than or different from, as required by law.

15. **MINIMUM INTERFERENCE WITH TRAFFIC:** Permittee shall plan and conduct work so as to create the least possible inconvenience to the traveling public; traffic shall not be unreasonably delayed. On conventional highways, permittee shall place properly attired flagger(s) to stop or warn the traveling public in compliance with the Manual of Traffic Controls and Instructions to Flaggers Pamphlet.
16. **STORAGE OF EQUIPMENT AND MATERIALS:** Equipment and material storage in State right of way shall comply with Standard Specifications, Standard Plans, and Special Provisions. Whenever the permittee places an obstacle within 3.63 m (12') feet of the traveled way, the permittee shall place temporary railing (Type K).
17. **CARE OF DRAINAGE:** Permittee shall provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Standard Specifications, Standard Plans and/or as directed by the Department's representative.
18. **RESTORATION AND REPAIRS IN RIGHT OF WAY:** Permittee is responsible for restoration and repair of State highway right of way resulting from permitted work (State Streets and Highways Code, Sections 670 et. seq.).
19. **RIGHT OF WAY CLEAN UP:** Upon completion of work, permittee shall remove and dispose of all scraps, brush, timber, materials, etc. off the right of way. The aesthetics of the highway shall be as it was before work started.
20. **COST OF WORK:** Unless stated in the permit, or a separate written agreement, the permittee shall bear all costs incurred for work within the State right of way and waives all claims for indemnification or contribution from the State.
21. **ACTUAL COST BILLING:** When specified in the permit, the Department will bill the permittee actual costs at the currently set hourly rate for encroachment permits.
22. **AS-BUILT PLANS:** When required, permittee shall submit one (1) set of as-built plans in compliance with Department's requirements. Plans shall be submitted within thirty (30) days after completion and approval of work.

As-Built plans or accompanying correspondence shall not include disclaimer statements of any kind. Such statements shall constitute non-compliance with these provisions. Failure to provide complete and signed As-Built plans shall be cause for bond or deposit retention by the Department.
23. **PERMITS FOR RECORD PURPOSES ONLY:** When work in the right of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), a fee exempt permit is issued to the permittee for the purpose of providing a notice and record of work. The Permittee's prior rights shall be preserved without the intention of creating new or different rights or obligations. "Notice and Record Purposes Only" shall be stamped across the face of the permit.
24. **BONDING:** The permittee shall file bond(s), in advance, in the amount set by the Department. Failure to maintain bond(s) in full force and effect will result in the Department stopping of all work and revoking permit(s). Bonds are not required of public corporations or privately owned utilities, unless permittee failed to comply with the provision and conditions under a prior permit. The surety company is responsible for any latent defects as provided in California Code of Civil Procedures, Section 337.15. Local agency permittee shall comply with requirements established as follows: In recognition that project construction work done on State property will not be directly funded and paid by State, for the purpose of protecting stop notice claimants and the interests of State relative to successful project completion, the local agency permittee agrees to require the construction contractor furnish both a payment and performance bond in the local agency's name with both bonds complying with the requirements set forth in Section 3-1.02 of State's current Standard Specifications before performing any project construction work. The local agency permittee shall defend, indemnify, and hold harmless the State, its officers and employees from all project construction related claims by contractors and all stop notice or mechanic's lien claimants. The local agency also agrees to remedy, in a timely manner and to State's satisfaction, any latent defects occurring as a result of the project construction work.
25. **FUTURE MOVING OF INSTALLATIONS:** Permittee understands and agrees to rearrange a permitted installation upon request by the Department, for State construction, reconstruction, or maintenance

work on the highway. The permittee at his sole expense, unless under a prior agreement, JUA, or a CCUA, shall comply with said request.

26. **ARCHAEOLOGICAL/HISTORICAL:** If any archaeological or historical resources are revealed in the work vicinity, the permittee shall immediately stop work, notify the Department's representative, retain a qualified archaeologist who shall evaluate the site, and make recommendations to the Department representative regarding the continuance of work.
27. **PREVAILING WAGES:** Work performed by or under a permit may require permittee's contractors and subcontractors to pay appropriate prevailing wages as set by the Department of Industrial Relations. Inquiries or requests for interpretations relative to enforcement of prevailing wage requirements are directed to State of California Department of Industrial Relations, 525 Golden Gate Avenue, San Francisco, California 94102.
28. **RESPONSIBILITY FOR DAMAGE:** The State of California and all officers and employees thereof, including but not limited to the Director of Transportation and the Deputy Director, shall not be answerable or accountable in any manner for injury to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property from any cause. The permittee shall be responsible for any liability imposed by law and for injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property arising out of work, or other activity permitted and done by the permittee under a permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit.

The permittee shall indemnify and save harmless the State of California, all officers, employees, and State's contractors, thereof, including but not limited to the Director of Transportation and the Deputy Director, from all claims, suits or actions of every name, kind and description brought for or on account of injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee and the public, or damage to property resulting from the performance of work or other activity under the permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit, except as otherwise provided by statute.

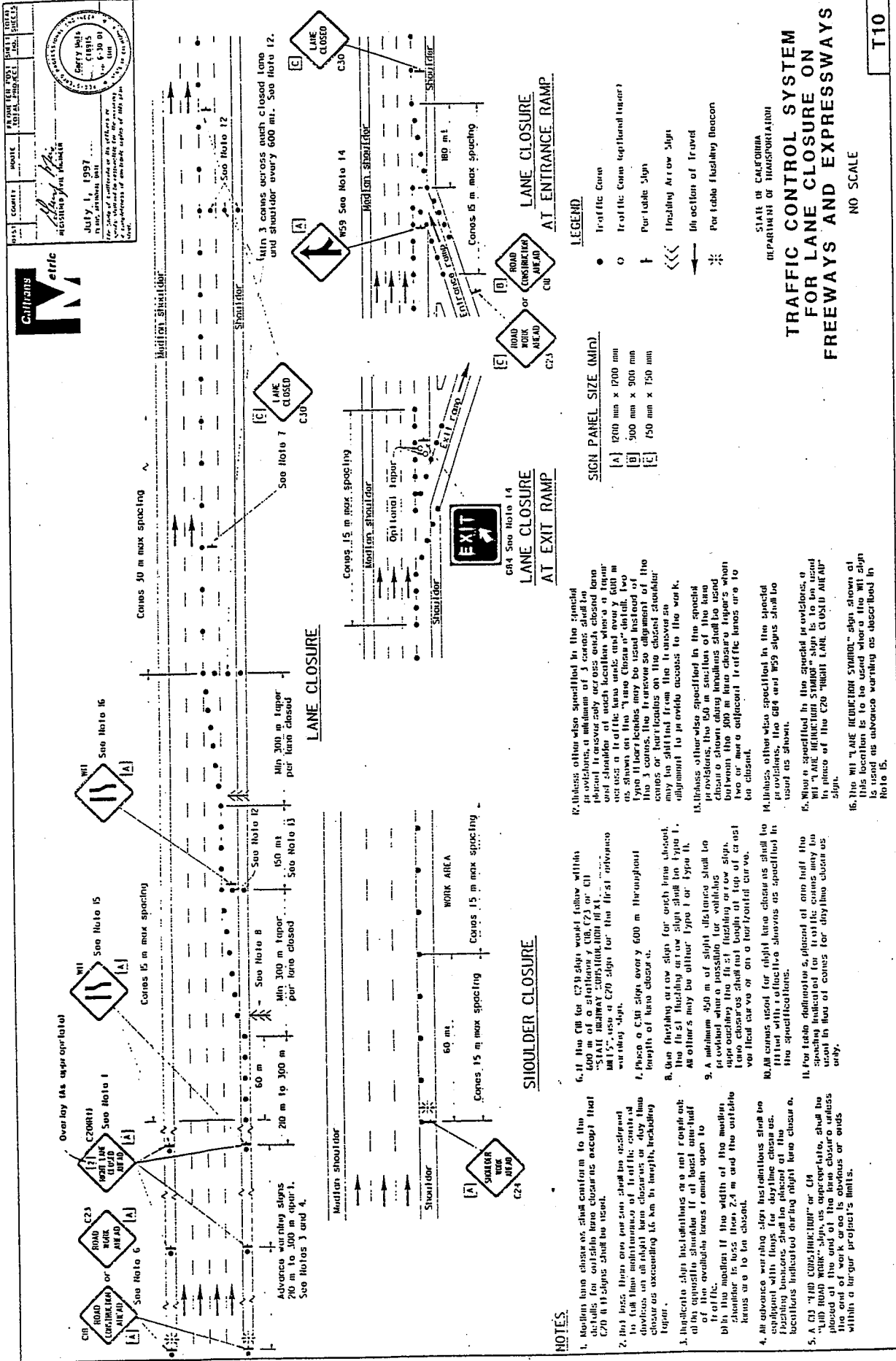
The duty of the permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code. The permittee waives any and all rights to any type of expressed or implied indemnity against the State, its officers, employees, and State contractors. It is the intent of the parties that the permittee will indemnify and hold harmless the State, its officers, employees, and State's contractors, from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault or negligence, whether active or passive, primary or secondary, on the part of the State, the permittee, persons employed by the permittee, or acting on behalf of the permittee.

For the purpose of this section, "State's contractors" shall include contractors and their subcontractors under contract to the State of California performing work within the limits of this permit.

29. **NO PRECEDENT ESTABLISHED:** This permit is issued with the understanding that it does not establish a precedent.
30. **FEDERAL CIVIL RIGHTS REQUIREMENTS FOR PUBLIC ACCOMMODATION:**
A. The permittee, for himself, his personal representative, successors in interest, and assigns as part of the consideration hereof, does hereby covenant and agree that:
1. No person on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. That in connection with the construction of any improvements on said lands and the furnishings of services thereon, no discrimination shall be practiced in the selection and retention of first-tier subcontractors in the selection of second-tier subcontractors.
3. That such discrimination shall not be practiced against the public in their access to and use of the facilities and services provided for

public accommodations (such as eating, sleeping, rest, recreation), and operation on, over, or under the space of the right of way.

4. That the permittee shall use the premises in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations, Commerce and Foreign Trade, Subtitle A, Office of the Secretary of Commerce, Part 8 (15 C.F.R. Part 8) and as said Regulations may be amended.
B. That in the event of breach of any of the above nondiscrimination covenants, the State shall have the right to terminate the permit and to re-enter and repossess said land and the land and the facilities thereon, and hold the same as if said permit had never been made or issued.
31. **MAINTENANCE OF HIGHWAYS:** The permittee agrees, by acceptance of a permit, to properly maintain any encroachment. This assurance requires the permittee to provide inspection and repair any damage, at permittee's expense, to State facilities resulting from the encroachment.
32. **SPECIAL EVENTS:** In accordance with subdivision (a) of Streets and Highways Code Section 682.5, the Department of Transportation shall not be responsible for the conduct or operation of the permitted activity, and the applicant agrees to defend, indemnify, and hold harmless the State and the city or county against any and all claims arising out of any activity for which the permit is issued.
Permittee understands and agrees that it will comply with the obligations of Titles II and III of the Americans with Disabilities Act of 1990 in the conduct of the event, and further agrees to indemnify and save harmless the State of California, all officers and employees thereof, including but not limited to the Director of Transportation, from any claims or liability arising out of or by virtue of said Act.
33. **PRIVATE USE OF RIGHT OF WAY:** Highway right of way shall not be used for private purposes without compensation to the State. The gifting of public property use and therefore public funds is prohibited under the California Constitution, Article 16.
34. **FIELD WORK REIMBURSEMENT:** Permittee shall reimburse State for field work performed on permittee's behalf to correct or remedy hazards or damaged facilities, or clear debris not attended to by the permittee.
35. **Notification of Department and TMC:** The permittee shall notify the Department's representative and the Traffic Management Center (TMC) at least 7 days before initiating a lane closure or conducting an activity that may cause a traffic impact. A confirmation notification should occur 3 days before closure or other potential traffic impacts. In emergency situations when the corrective work or the emergency itself may affect traffic, TMC and the Department's representative shall be notified as soon as possible.
36. **Underground Service Alert (USA) Notification:** Any excavation requires compliance with the provisions of Government Code Section 4216 et. seq., including, but not limited to notice to a regional notification center, such as Underground Service Alert (USA). The permittee shall provide notification at least 48 hours before performing any excavation work within the right of way.



NOTES

1. Roadwork lane closures shall conform to the details for outside lane closures except that C20 (W) signs shall be used.
2. The lane, then, one for one, shall be assigned to the lane maintenance crew. The lane shall be closed as early as possible in the day time and shall be closed as early as possible in the day time.
3. Roadwork lane closures shall be placed at the end of the lane and the outside lane shall be closed as early as possible in the day time.
4. An advance warning sign shall be placed at the end of the lane and the outside lane shall be closed as early as possible in the day time.
5. A C20 (W) "ROAD WORK AHEAD" sign shall be placed at the end of the lane and the outside lane shall be closed as early as possible in the day time.
6. If the C20 (W) sign is used, it shall be placed at the end of the lane and the outside lane shall be closed as early as possible in the day time.
7. The C20 (W) sign shall be placed at the end of the lane and the outside lane shall be closed as early as possible in the day time.
8. The C20 (W) sign shall be placed at the end of the lane and the outside lane shall be closed as early as possible in the day time.
9. The C20 (W) sign shall be placed at the end of the lane and the outside lane shall be closed as early as possible in the day time.
10. The C20 (W) sign shall be placed at the end of the lane and the outside lane shall be closed as early as possible in the day time.

SHOULDER CLOSURE

LANE CLOSURE AT EXIT RAMP

LANE CLOSURE AT ENTRANCE RAMP

SIGN PANEL SIZE (mm)

[A]	1200 mm x 1200 mm
[B]	900 mm x 900 mm
[C]	750 mm x 750 mm

LEGEND

- Traffic Cone
- Traffic Cone (upward taper)
- ⊥ Portable Sign
- ← Flashing Arrow Sign
- Flashing Arrow Sign
- ⊛ Flashing Beacon

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

T10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Caltrans

PROJECT NO. 1001
SHEET NO. 1001

DATE: July 1, 1997
BY: [Signature]
CHECKED BY: [Signature]

PROJECT LOCATION: [Blank]
PROJECT DESCRIPTION: [Blank]

PROJECT NO. 1001
SHEET NO. 1001

Appendix B

Drilling and Sampling Procedures

The procedures that were used for drilling the borings and collecting soil samples are presented below.

- A standard encroachment permit was obtained from Caltrans. Solano County required no drilling permit for the shallow hand auger borings.

Drilling and Soil Sample Collection

- Twenty-eight soil borings along Route 12 and 11 soil borings along Route 505 were advanced to a depth of approximately 0.9 meters (3 feet) and 0.6 meters (2 feet) respectively, below the ground surface (BGS) by hand-auger soil sampling equipment.
- The drilling and sampling equipment was washed in a detergent rinse and two clear water rinses prior to drilling. No excess soil or waste water was generated or stored at the site.
- General soil descriptions, sample type and depth, and related drilling information were recorded on field forms by a sample technician from IT Corporation (IT). Copies are provided in Appendix C.
- Soil samples were collected from depths of approximately 0.15, 0.3, 0.6, and 0.9 meters (0.5, 1.0, 2.0, and 3.0 feet) BGS at the Route 12 site, and 0.15, 0.3, and 0.66 meters (0.5, 1.0, and 2.0 feet) BGS at the Route 505 site. Soil samples were collected directly from the bit-end of the hand-auger to avoid sloughed soil, and the material placed in wide mouth glass jars.
- The hand-augers were washed between sample intervals using a bristle brush with Alconox solution followed by two clear water rinses. The samplers were dried by air or with paper towels prior to sampling.
- Each sample was labeled with the sample number, date, project number, and samplers initials.
- No excess soil was generated or stored at the site.

Sample Retention and Analysis

- All samples were placed on ice in an insulated chest cooled to a temperature of approximately 4 degrees Celsius.
- Chain of custody procedures, including the use of chain of custody forms, were used to document sample handling and transport from collection to delivery to the laboratory for analysis.
- The samples were retained in the insulated chests preserved with ice overnight in the custody of an IT employee. The samples were either picked up within approximately 24 hours of collection by a courier supplied by the laboratory, or were delivered to the laboratory by IT personnel within approximately 24 hours of collection. The samples were transported to the laboratory in a motor vehicle.
- Soil samples were labeled with the boring number and approximate sample collection depth. For example, RT12B1-0.3, where RT12B1 is the boring number along Route 12, and -0.3 is the sample collection depth at approximately 0-.3 meters below the ground surface (A convention of "RT505B1-0.3" was used for samples collected along Route 505).
- Laboratory quality assurance/quality control procedures are summarized below:
 - Method Blank Frequency = one per 20 samples
 - Matrix Spike/Matrix Spike Duplicate = one per 20 samples
 - Laboratory Control Sample/Laboratory Control Sample Duplicate = one per 20 samples
- Information regarding sample containers, preservation, and holding times is presented in Table A-1 of the workplan (IT Corp., 1999a).

Appendix C

***Generalized Soil Classifications and Sample Collection
Documentation***



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By ASF Date 06/16/99 Subject Rt 12/505 Soil Sampling Sheet No. 1 of 3
Chkd. By _____ Date _____ Proj. No. 782983

<u>Time</u>	<u>Boring Location</u>	<u>sample depths(m)</u>	<u>soil type</u>	<u>notes</u>
9:00 a	12B16	0.15, 0.3, 0.6, 0.9	GM (road base) to ~8" ML to 3'	Fill Dry
	12B18	"	GM to ~6" ML to 3', w/tr. sand to 2.5'	dry, fill
	12B19	"	GM to ~8" ML to 3' w/tr. concrete fragments	dry fill, moist @ 2.5'
	12B20	"	GM to ~6" ML to 3'	fill moist below 2.5'
	12B22	"	GM to ~8" ML w/tr. sand to 3'	fill moist below 2'
	12B23	"	GM to ~6" ML w/tr. gravel to 3'	fill moist below 2'
12:00 p.	12B28	"	GM to ~8" SW w/silt + gravel to 3'	fill, moist below 2.5'
	12B25	"	GM to ~8" ML/SM to 2.3' ML to 3'	fill limonitic, dry moist below 2.5'
	12B26	"	GM to ~6" SW w/silt + gravel to 3'	fill fill
	12B27	"	GM to ~8" SW/GW w/silt to 3'	fill, dry

by ASF Date _____ Subject Rt 12/505 Soil Sampling Sheet No. 2 of 3
 Chkd. By _____ Date _____ Proj. No. 782983

<u>Time</u>	<u>Boring location</u>	<u>sample depths (m)</u>	<u>soil type</u>	<u>notes</u>
	12B24	0.15, 0.3, 0.6, 0.9	GM to ~8" ML w/tr. gravel to 3'	fill, moist below 2.5'
	12B21	"	GM to ~8" ML w/sand to 3'	fill, moist below 2.5'
1:30 p.	12B17	"	GM to ~8" ML to 3'	fill moist below 2.8'
	12B15	"	GM to ~8" ML w/sand + tr. gravel	fill fill, moist below 2.5'
	12B14	"	GM to ~6" ML w/sand to 3'	fill moist below 2.5'
	12B13	"	GM to ~8" ML w/sand to 3'	fill moist below 2.8'
	12B12	"	GM to ~6" ML to 3'	fill
	12B11	"	GM to ~6" ML w/sand to 3'	fill moist @ 3'
	12B1	"	GM to ~6" 1' sm/ML to 3'	
	12B2	0.15, 0.3	GM to 1'	fill, dry, bit refusal @ 1' 2' drilled for 1' rec.
	12B3	0.15, 0.3, 0.6, 0.9	ML to 3'	dry



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ASF Date 06/16/99 Subject Rt. 12/505 Soil Sampling Sheet No. 3 of 3
Chkd. By _____ Date _____ Proj. No. 782983

<u>Time</u>	<u>Boring location</u>	<u>Sample depths</u>	<u>Soil type</u>	<u>notes</u>
	12B4	0.15	GM to 6"	dry, bit refusal (3x) 12" drilled for 6" rec.
	12B5	0.15, 0.3, 0.6, 0.9	SM to 3'	
	12B6	"	GM to 6," SM to 3'	
	12B7	"	SM to 3'	
	12B8	"	SM to 2' ML to 3'	
4:15 p	12B9	"	GM to ~6" SM/ML to 3'	fill



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FIELD ACTIVITY DAILY LOG

DAILY LOG	DATE	06	19	99
	NO.			
	SHEET	1	OF	1

PROJECT NAME: Caltrans Rt 12/505 PROJECT NO. 782983

FIELD ACTIVITY SUBJECT: Soil Sampling

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Time	Boring Location	Sample depths (m)	Soil type	notes
	505B1	0.15, 0.3, 0.66	GM to ~ 4' SW 1/2 silt + gravel to 2'	dry
8:00	505B2	"	"	"
	505B3	"	"	"
	505B4	"	"	"
	505B5	"	"	"
8:45	505B6	"	"	"
	505B7	"	GM to 2'	"
9:30	505B8	"	"	"
	505B9	"	"	"
	505B10	"	SM/ML to 2'	moist
9:00	505B11	"	"	"

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS, AND
OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.

WEATHER CONDITIONS:

clear

IMPORTANT TELEPHONE CALLS:

IT PERSONNEL ON SITE: ASF

SIGNATURE:

DATE: 06/19/99

Appendix D

Laboratory Analytical Reports



Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

June 22, 1999

Invoice #: 11216
Project Name: Caltrans Rte. 12
Project #: 782983

Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Mr. Dave Smith,

Enclosed are the analytical results for our invoice #11216. The samples were received at Sparger Technology Analytical Lab on June 18, 1999.

The samples were received in EPA specified containers. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

The report consists of the following sections:

- I. Sample Description & Analysis Request
- II. Quality Control Report
- III. Analysis Results

No problems were encountered with the analysis of your samples.

If you require additional information please give us a call at (916) 362-8947.

Sincerely,

A handwritten signature in black ink, appearing to read "R. L. James", is written over a horizontal line.

R. L. James
Laboratory Director

I Sample Description & Analysis Request

Laboratory ID	Matrix	Sample Date	Sample ID	Analysis Description
11126	001	S	6/18/99	12B1 - 0.15
11126	002	S	6/18/99	12B1 - 0.3
				6010
11126	003	S	6/18/99	12B1 - 0.6
11126	004	S	6/18/99	12B1 - 0.9
11126	005	S	6/18/99	12B2 - 0.15
11126	006	S	6/18/99	12B2 - 0.3
11126	007	S	6/18/99	12B3 - 0.15
11126	008	S	6/18/99	12B3 - 0.3
11126	009	S	6/18/99	12B3 - 0.6
11126	010	S	6/18/99	12B3 - 0.9
11126	011	S	6/18/99	12B4 - 0.15
11126	012	S	6/18/99	12B5 - 0.15
11126	013	S	6/18/99	12B5 - 0.3
11126	014	S	6/18/99	12B5 - 0.6
11126	015	S	6/18/99	12B5 - 0.9
11126	016	S	6/18/99	12B6 - 0.15
11126	017	S	6/18/99	12B6 - 0.3
11126	018	S	6/18/99	12B6 - 0.9
11126	019	S	6/18/99	12B7 - 0.15
11126	020	S	6/18/99	12B7 - 0.3
11126	021	S	6/18/99	12B7 - 0.6
11126	022	S	6/18/99	12B7 - 0.9
11126	023	S	6/18/99	12B8 - 0.15
11126	024	S	6/18/99	12B8 - 0.3
11126	025	S	6/18/99	12B8 - 0.6
11126	026	S	6/18/99	12B8 - 0.9
11126	027	S	6/18/99	12B9 - 0.15
11126	028	S	6/18/99	12B9 - 0.3
				6010
11126	029	S	6/18/99	12B9 - 0.6
11126	030	S	6/18/99	12B9 - 0.9
11126	031	S	6/18/99	12B10 - 0.15

I Sample Description & Analysis Request

Laboratory ID	Matrix	Sample Date	Sample ID	Analysis Description
11126	032	S	6/18/99	12B10 - 0.3
11126	033	S	6/18/99	12B10 - 0.6
11126	034	S	6/18/99	12B10 - 0.9
11126	035	S	6/18/99	12B11 - 0.15
11126	036	S	6/18/99	12B11 - 0.3
11126	037	S	6/18/99	12B11 - 0.6
11126	038	S	6/18/99	12B11 - 0.9
11126	039	S	6/18/99	12B12 - 0.15
11126	040	S	6/18/99	12B12 - 0.3
11126	041	S	6/18/99	12B12 - 0.6
11126	042	S	6/18/99	12B12 - 0.9
11126	043	S	6/18/99	12B13 - 0.15
11126	044	S	6/18/99	12B13 - 0.3
11126	045	S	6/18/99	12B13 - 0.6
11126	046	S	6/18/99	12B13 - 0.9
11126	047	S	6/18/99	12B14 - 0.15
11126	048	S	6/18/99	12B14 - 0.3
11126	049	S	6/18/99	12B14 - 0.6
11126	050	S	6/18/99	12B14 - 0.9
11126	051	S	6/18/99	12B15 - 0.15
11126	052	S	6/18/99	12B15 - 0.3
11126	053	S	6/18/99	12B15 - 0.6
11126	054	S	6/18/99	12B15 - 0.9
11126	055	S	6/18/99	12B16 - 0.15
11126	056	S	6/18/99	12B16 - 0.3
11126	057	S	6/18/99	12B16 - 0.6
11126	058	S	6/18/99	12B16 - 0.9
11126	059	S	6/18/99	12B17 - 0.15
				9045
				6010
11126	060	S	6/18/99	12B17 - 0.3
11126	061	S	6/18/99	12B17 - 0.6
11126	062	S	6/18/99	12B17 - 0.9
11126	063	S	6/18/99	12B18 - 0.15
				6010

I Sample Description & Analysis Request

Laboratory ID		Matrix	Sample Date	Sample ID	Analysis Description
11126	064	S	6/18/99	12B18 - 0.3	6010
11126	065	S	6/18/99	12B18 - 0.6	6010
11126	066	S	6/18/99	12B18 - 0.9	6010
11126	067	S	6/18/99	12B19 - 0.15	6010
11126	068	S	6/18/99	12B19 - 0.3	6010
11126	069	S	6/18/99	12B19 - 0.6	6010
11126	070	S	6/18/99	12B19 - 0.9	6010
11126	071	S	6/18/99	12B20 - 0.15	6010
11126	072	S	6/18/99	12B20 - 0.3	6010
11126	073	S	6/18/99	12B20 - 0.6	6010
11126	074	S	6/18/99	12B20 - 0.9	6010
11126	075	S	6/18/99	12B21 - 0.15	6010
11126	076	S	6/18/99	12B21 - 0.3	6010
11126	077	S	6/18/99	12B21 - 0.6	6010
11126	078	S	6/18/99	12B21 - 0.9	6010
11126	079	S	6/18/99	12B22 - 0.15	6010
11126	080	S	6/18/99	12B22 - 0.3	6010
11126	081	S	6/18/99	12B22 - 0.6	6010
11126	082	S	6/18/99	12B22 - 0.9	6010
11126	083	S	6/18/99	12B23 - 0.15	6010
11126	084	S	6/18/99	12B23 - 0.3	6010
11126	085	S	6/18/99	12B23 - 0.6	6010
11126	086	S	6/18/99	12B23 - 0.9	6010
11126	087	S	6/18/99	12B24 - 0.15	6010
11126	088	S	6/18/99	12B24 - 0.3	6010
11126	089	S	6/18/99	12B24 - 0.6	6010
11126	090	S	6/18/99	12B24 - 0.9	6010
11126	091	S	6/18/99	12B25 - 0.15	6010
11126	092	S	6/18/99	12B25 - 0.3	6010
11126	093	S	6/18/99	12B25 - 0.6	6010
11126	094	S	6/18/99	12B25 - 0.9	6010
11126	095	S	6/18/99	12B26 - 0.15	6010
11126	096	S	6/18/99	12B26 - 0.3	6010

I Sample Description & Analysis Request

Laboratory ID		Matrix	Sample Date	Sample ID	Analysis Description
11126	097	S	6/18/99	12B26 - 0.6	6010
11126	098	S	6/18/99	12B26 - 0.9	6010
11126	099	S	6/18/99	12B27 - 0.15	6010
11126	100	S	6/18/99	12B27 - 0.3	6010
11126	101	S	6/18/99	12B27 - 0.6	6010
11126	102	S	6/18/99	12B27 - 0.9	6010
11126	103	S	6/18/99	12B28 - 0.15	6010
11126	104	S	6/18/99	12B28 - 0.3	6010
11126	105	S	6/18/99	12B28 - 0.6	9045
					6010
11126	106	S	6/18/99	12B28 - 0.9	6010

II Quality Control

- A. **Project Specific QC.** No project specific QC (i.e., spikes and/or duplicates) was requested.
- B. **Method Blank Results.** A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your sample.
- No target parameters were detected in the method blank associated with your sample at the reporting limit levels noted on the data sheets in the Analytical Results section.
- C. **Laboratory Control Spike.** A Laboratory Control Spike (LCS) is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The LCS results associated with your samples are on the attached Laboratory Control Spike and Laboratory Control Spike Duplicate Analysis Report.
- D. **Matrix Spike Results.** A Matrix Spike is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The Matrix Spike results associated with your samples are on the attached Matrix Spike and Matrix Spike Duplicate Analysis Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration}) \times 100}{(\text{actual concentration})}$$

III Analysis Results

Results are on the attached data sheets.

EPA Method 9045 pH

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 22, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

Matrix: Soil

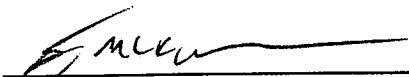
Dilution: 1: 1

	Client ID	Lab ID	Amount	Limit
pH	12B1 - 0.3	11216-002A	6.4	N.A.
pH	12B9 - 0.3	11216-029A	6.4	N.A.
pH	12B17 - 0.15	11216-060A	6.5	N.A.
pH	12B28 - 0.6	11216-105A	6.6	N.A.

N.A. = Not Applicable

N.D. = Not Detected. Compound(s) may be present at concentrations below the detection limit.

N.R. = Not Requested.


E. McKinney, Inorganics Manager

Jun 22, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

Ph002

**EPA Method 6010
Lead
Method Blank**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

Client ID: Method Blank

LAB ID: 990621A

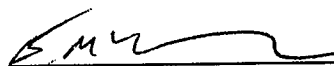
Matrix: Soil

Dilution: 1: 1

Name	Concentration	Reporting Limit	Units
Lead (Pb)	ND	1.0	mg/kg

ppm= parts per million = mg/l = milligram per liter.

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

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(Certification No. 1614)

6010mbs

**EPA Method 6010
Lead
LCS / LCSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

Client ID: LCS/LCSD

LAB ID: 990621A

Matrix: Soil


Dilution: 1: 1

Units : (mg/kg)

Element	Spike Conc.	LCS	% Recovery	Duplicate LCS	Duplicate % Recovery	% RPD
Lead (Pb)	50.0	54.0	108%	50.3	101%	7.1%

ppm = parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY

(Certification No. 1614)

6010lcsc

**EPA Method 6010
Lead
MS/MSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

Client ID: MS/MSD

LAB ID: 11216-001A

Matrix: Soil

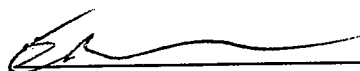
Dilution: 1: 1

Units : (mg/kg)

Element	Sample Conc.	Spike Conc.	MS	% Recovery	Duplicate MSD	Duplicate % Recovery	% RPD
Lead (Pb)	8.88	50.0	54.8	91.8%	60.9	104%	12%

ppm= parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY

(Certification No. 1614)

6010mss

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

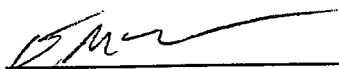
Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-001A	12B1 - 0.15	8.9	1.0	mg/kg
Lead (Pb)	11216-002A	12B1 - 0.3	6.4	1.0	mg/kg
Lead (Pb)	11216-003A	12B1 - 0.6	4.0	1.0	mg/kg
Lead (Pb)	11216-004A	12B1 - 0.9	5.0	1.0	mg/kg
Lead (Pb)	11216-005A	12B2 - 0.15	10	1.0	mg/kg
Lead (Pb)	11216-006A	12B2 - 0.3	56	1.0	mg/kg
Lead (Pb)	11216-007A	12B3 - 0.15	6.7	1.0	mg/kg
Lead (Pb)	11216-008A	12B3 - 0.3	4.9	1.0	mg/kg
Lead (Pb)	11216-009A	12B3 - 0.6	9.1	1.0	mg/kg
Lead (Pb)	11216-010A	12B3 - 0.9	5.2	1.0	mg/kg

ppm= parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
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(Certification No. 1614)

6010001.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

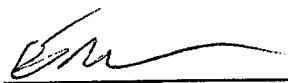
Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-011A	12B4 - 0.15	29	1.0	mg/kg
Lead (Pb)	11216-012A	12B5 - 0.15	12	1.0	mg/kg
Lead (Pb)	11216-013A	12B5 - 0.3	11	1.0	mg/kg
Lead (Pb)	11216-014A	12B5 - 0.6	7.4	1.0	mg/kg
Lead (Pb)	11216-015A	12B5 - 0.9	6.5	1.0	mg/kg
Lead (Pb)	11216-016A	12B6 - 0.15	3.0	1.0	mg/kg
Lead (Pb)	11216-017A	12B6 - 0.3	4.1	1.0	mg/kg
Lead (Pb)	11216-018A	12B6 - 0.6	5.0	1.0	mg/kg
Lead (Pb)	11216-019A	12B6 - 0.9	5.6	1.0	mg/kg
Lead (Pb)	11216-020A	12B7 - 0.15	6.9	1.0	mg/kg
Lead (Pb)	11216-021A	12B7 - 0.3	3.6	1.0	mg/kg

ppm = parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010011.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-022A	12B7 - 0.6	4.1	1.0	mg/kg
Lead (Pb)	11216-023A	12B7 - 0.9	3.6	1.0	mg/kg
Lead (Pb)	11216-024A	12B8 - 0.15	3.2	1.0	mg/kg
Lead (Pb)	11216-025A	12B8 - 0.3	4.8	1.0	mg/kg
Lead (Pb)	11216-026A	12B8 - 0.6	1.4	1.0	mg/kg
Lead (Pb)	11216-027A	12B8 - 0.9	4.8	1.0	mg/kg
Lead (Pb)	11216-028A	12B9 - 0.15	15	1.0	mg/kg
Lead (Pb)	11216-029A	12B9 - 0.3	25	1.0	mg/kg
Lead (Pb)	11216-030A	12B9 - 0.6	30	1.0	mg/kg
Lead (Pb)	11216-031A	12B9 - 0.9	5.5	1.0	mg/kg

ppm= parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.



E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010021.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

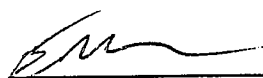
Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-032A	12B10 - 0.15	82	1.0	mg/kg
Lead (Pb)	11216-033A	12B10 - 0.3	47	1.0	mg/kg
Lead (Pb)	11216-034A	12B10 - 0.6	11	1.0	mg/kg
Lead (Pb)	11216-035A	12B10 - 0.9	7.4	1.0	mg/kg
Lead (Pb)	11216-036A	12B11-0.15	16	1.0	mg/kg
Lead (Pb)	11216-037A	12B11 - 0.3	85	1.0	mg/kg
Lead (Pb)	11216-038A	12B11 - 0.6	9.5	1.0	mg/kg
Lead (Pb)	11216-039A	12B11 - 0.9	8.0	1.0	mg/kg
Lead (Pb)	11216-040A	12B12 - 0.15	11	1.0	mg/kg
Lead (Pb)	11216-041A	12B12 - 0.3	9.5	1.0	mg/kg

ppm = parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010031.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12


Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-042A	12B12 - 0.6	8.1	1.0	mg/kg
Lead (Pb)	11216-043A	12B12 - 0.9	6.3	1.0	mg/kg
Lead (Pb)	11216-044A	12B13 - 0.15	66	1.0	mg/kg
Lead (Pb)	11216-045A	12B13 - 0.3	62	1.0	mg/kg
Lead (Pb)	11216-046A	12B13 - 0.6	12	1.0	mg/kg
Lead (Pb)	11216-047A	12B13 - 0.9	7.4	1.0	mg/kg
Lead (Pb)	11216-048A	12B14 - 0.15	88	1.0	mg/kg
Lead (Pb)	11216-049A	12B14 - 0.3	22	1.0	mg/kg
Lead (Pb)	11216-050A	12B14 - 0.6	7.8	1.0	mg/kg
Lead (Pb)	11216-051A	12B14 - 0.9	6.8	1.0	mg/kg

ppm= parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010041.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12


Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-052A	12B15 - 0.15	26	1.0	mg/kg
Lead (Pb)	11216-053A	12B15 - 0.3	71	1.0	mg/kg
Lead (Pb)	11216-054A	12B15 - 0.6	16	1.0	mg/kg
Lead (Pb)	11216-055A	12B15 - 0.9	6.8	1.0	mg/kg
Lead (Pb)	11216-056A	12B16 - 0.15	20	1.0	mg/kg
Lead (Pb)	11216-057A	12B16 - 0.3	62	1.0	mg/kg
Lead (Pb)	11216-058A	12B16 - 0.6	24	1.0	mg/kg
Lead (Pb)	11216-059A	12B16 - 0.9	5.5	1.0	mg/kg
Lead (Pb)	11216-060A	12B17 - 0.15	47	1.0	mg/kg
Lead (Pb)	11216-061A	12B17 - 0.3	34	1.0	mg/kg

ppm = parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010051.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12


Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-062A	12B17 - 0.6	140	1.0	mg/kg
Lead (Pb)	11216-063A	12B17 - 0.9	19	1.0	mg/kg
Lead (Pb)	11216-064A	12B18 - 0.15	112	1.0	mg/kg
Lead (Pb)	11216-065A	12B18 - 0.3	63	1.0	mg/kg
Lead (Pb)	11216-066A	12B18 - 0.6	89	1.0	mg/kg
Lead (Pb)	11216-067A	12B18 - 0.9	12	1.0	mg/kg
Lead (Pb)	11216-068A	12B19 - 0.15	26	1.0	mg/kg
Lead (Pb)	11216-069A	12B19 - 0.3	30	1.0	mg/kg
Lead (Pb)	11216-070A	12B19 - 0.6	197	1.0	mg/kg
Lead (Pb)	11216-071A	12B19 - 0.9	27	1.0	mg/kg

ppm = parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010061.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12


Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-072A	12B20 - 0.15	31	1.0	mg/kg
Lead (Pb)	11216-073A	12B20 - 0.3	8.6	1.0	mg/kg
Lead (Pb)	11216-074A	12B20 - 0.6	6.7	1.0	mg/kg
Lead (Pb)	11216-075A	12B20 - 0.9	5.9	1.0	mg/kg
Lead (Pb)	11216-076A	12B21 - 0.15	150	1.0	mg/kg
Lead (Pb)	11216-077A	12B21 - 0.3	97	1.0	mg/kg
Lead (Pb)	11216-078A	12B21 - 0.6	11	1.0	mg/kg
Lead (Pb)	11216-079A	12B21 - 0.9	7.1	1.0	mg/kg
Lead (Pb)	11216-080A	12B22 - 0.15	52	1.0	mg/kg
Lead (Pb)	11216-081A	12B22 - 0.3	32	1.0	mg/kg

ppm = parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010071.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12

Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-082A	12B22 - 0.6	13	1.0	mg/kg
Lead (Pb)	11216-083A	12B22 - 0.9	7.6	1.0	mg/kg
Lead (Pb)	11216-084A	12B23 - 0.15	24	1.0	mg/kg
Lead (Pb)	11216-085A	12B23 - 0.3	14	1.0	mg/kg
Lead (Pb)	11216-086A	12B23 - 0.6	13	1.0	mg/kg
Lead (Pb)	11216-087A	12B23 - 0.9	9.4	1.0	mg/kg
Lead (Pb)	11216-088A	12B24 - 0.15	54	1.0	mg/kg
Lead (Pb)	11216-089A	12B24 - 0.3	16	1.0	mg/kg
Lead (Pb)	11216-090A	12B24 - 0.6	10	1.0	mg/kg
Lead (Pb)	11216-091A	12B24 - 0.9	22	1.0	mg/kg

ppm = parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.



E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010081.xls

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12


Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-092A	12B25 - 0.15	36	1.0	mg/kg
Lead (Pb)	11216-093A	12B25 - 0.3	37	1.0	mg/kg
Lead (Pb)	11216-094A	12B25 - 0.6	51	1.0	mg/kg
Lead (Pb)	11216-095A	12B25 - 0.9	15	1.0	mg/kg
Lead (Pb)	11216-096A	12B26 - 0.15	8.4	1.0	mg/kg
Lead (Pb)	11216-097A	12B26 - 0.3	5.6	1.0	mg/kg
Lead (Pb)	11216-098A	12B26 - 0.6	105	1.0	mg/kg
Lead (Pb)	11216-099A	12B26 - 0.9	27	1.0	mg/kg
Lead (Pb)	11216-100A	12B27 - 0.15	81	1.0	mg/kg
Lead (Pb)	11216-101A	12B27 - 0.3	16	1.0	mg/kg

ppm= parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010091.xls

**EPA Method 6010
Lead**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jun 21, 1999
Date Analyzed: Jun 21, 1999
Invoice #: 11216JUN99

Project #: 782983

Project Name: Caltrans Rte. 12


Matrix: Soil

Dilution: 1: 1

Name	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11216-102A	12B27 - 0.6	21	1.0	mg/kg
Lead (Pb)	11216-103A	12B27 - 0.9	25	1.0	mg/kg
Lead (Pb)	11216-104A	12B28 - 0.15	30	1.0	mg/kg
Lead (Pb)	11216-105A	12B28 - 0.3	20	1.0	mg/kg
Lead (Pb)	11216-106A	12B28 - 0.6	30	1.0	mg/kg
Lead (Pb)	11216-107A	12B28 - 0.9	11	1.0	mg/kg

ppm= parts per million = mg/L = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 21, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

60100101.xls

Company:

Phone:

Project Manager:

FAX:

Report Address:

Billing Name & Address:

Project Name:

Project/Job#:

Project Location:

P.O.#:

ANALYSIS REQUEST

REMARKS:

note: pH analysis on 1289-0.3

Sampler's Name:

ABF

WET(STLC)

TCLP

°C

Sample Condition

pH

Cooler Temp.

Sample Condition

pH

Cooler Temp.

Sample Condition

pH

Cooler Temp.

Sample Condition

pH

Cooler Temp.

Sample Condition

pH

Cooler Temp.

Sample Condition

pH

NO.	SAMPLE ID	Date	Time	Sampling	Container	Preservative Used	Matrix	TCLP	Total	TAT
1.	1288-0.6	6/16			40 mL VOA					Standard
2.	1288-0.9				1 L amber bottle					Rush Services (72hr / 24hr / 12hr)
3.	1289-0.15				250 mL Plastic					Holiday/Weekend Rush
4.	1289-0.3		4:15							
5.	1289-0.6									
6.	1289-0.9									
7.	12810-0.15									
8.	12810-0.3									
9.	12810-0.6									
10.	12810-0.9									

Relinquished by:	Received by:
Date: 6/18/99	Date: 6/18/99
Time: 18:35	Time: 18:35

PLEASE READ REVERSE SIDE FOR TERMS AND CONDITIONS



ANALYSIS REQUEST

[illegible]

Company:

17 608

Phone:

FAX:

Project Manager:

Report Address:

Billing Name & Address:

Project Name:

Project/Job#:

782983

Project Location:

P.O.#:

CHAIN OF CUSTODY RECORD

C.O.C. No. 27630

Page 8 of 12

STAL Invoice Number:

ANALYSIS REQUEST

REMARKS:

Sampler's Name:

ASR

Cooler Temp.	°C	All	None	Some
		OK	OK	OK
Sample Condition				
pH				

NO.	SAMPLE ID	Date	Time	Sampling	Container				Preservative Used		Matrix				TCLP												Total		TAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
					40 mL VOA	Brass Sleeve	1 L amber bottle	250 mL Plastic	Other:	HCl/HNO3/CF	None	Other:	Water	Soil	Air	Other:	BTEX (602/8020)503.1	BTEX/TPHgas (602/8020/8015)/MTBE	TPHdiesel/TPHmotor oil/kerosene(8015)	EPA 601/8010/502.2/504/8021	EPA 602/8020	EPA 608/8080 (Pesticides)/505/508	EPA 608/8080 (PCB'S)	EPA 624/8240/524.2/8260	EPA 625/8270/525	Total Oil & Grease (5520)	Non-Polar O & G/TRPH (418.1)	Organic Lead		RCL	CAM-17 Metals	CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)	Lead 60/0	Standard	Rush Services (72hr / 48hr / 24hr / 12hr)	Holiday/Weekend Rush																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Relinquished by:	Received by:
Date: 6/18/99	Date: 6/18/99
Time: 19:35	Time: 18:38

PLEASE READ REVERSE SIDE FOR TERMS AND CONDITIONS

SPARGER TECHNOLOGY, INC.

Analytical Laboratory

3050 Flite Circle, #112 Sacramento, CA 95827

Phone: (916) 362-8947

FAX: (916) 362-0947

Company:

Phone:

Project Manager:

FAX:

Report Address:

Billing Name & Address:

Project Name:

Project/Job#:

782983

Project Location:

P.O.#:

HAIN OF CUSTODY RECORD

C.O.C. No. 27632

Page 10 of 12

STAL Invoice Number:

ANALYSIS REQUEST

REMARKS:

Sampler's Name:

ASF

Cooler Temp.	°C	All	None	Some
		OK	OK	OK
Sample Condition				
pH				

WET (STLC)

TCLP

TCLP

Total

Matrix

Preservative Used

Container

Sampling

TAT

NO.	SAMPLE ID	Date	Time	40 mL VOA	Brass Sleeve	1 L amber bottle	50 mL Plastic	Other: Plastic & bags	HCl/HNO ₃ CE	None	Other:	Water	Soil	Air	Other:	BTX/TPH gas (602/8020/8015)/MTBE	TPH/diesel/TPH/motor oil/kerosene(8015)	EPA 601/8010/502.2/504/8021	EPA 602/8020	EPA 608/8080 (Pesticides)/505/508	EPA 608/8080 (PCB'S)	EPA 624/8240/524.2/8260	EPA 625/8270/525	Total Oil & Grease (5520)	Non-Polar O & G/TRPH (418.1)	Organic Lead	RCI	CAM-17 Metals	CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)	Lead 6010	Standard	Holiday/Weekend Rush	Rush Services (72hr / 48hr / 24hr / 12hr)	
1.	120223-0.6	6/18	1999																															
2.	120223-0.9																																	
3.	120224-0.15																																	
4.	120224-0.3																																	
5.	120224-0.6																																	
6.	120224-0.9																																	
7.	120225-0.15																																	
8.	120225-0.3																																	
9.	120225-0.6																																	
10.	120225-0.9																																	

Relinquished by:

Received by:

Relinquished by:

Received by:

Date:

Time:

18:35

Date:

18:38

Time:

Date:

Time:

Date:

Time:

PLEASE READ REVERSE SIDE FOR TERMS AND CONDITIONS

Company:

Phone:

IT Corp

Project Manager:

FAX:

Report Address:

Billing Name & Address:

Project Name:

Project/Job#:

782983

Project Location:

P.O.#:

ANALYSIS REQUEST

REMARKS:

Sampler's Name:

B3F

Cooler Temp.	°C	All	None	Some
		OK	OK	OK
Sample Condition				
pH				

NO.	SAMPLE ID	Date	Time	Container				Preservative Used		Matrix				TCLP												Total		TAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
				40 mL VOA	Brass Sleeve	1 L amber bottle	250 mL Plastic	Other:	HCl/HNO3/CE	None	Other:	Water	Soil	Air	Other:	BTEX (602/8020) 503.1	BTEX/TPHgas (602/8020/8015)/MTBE	TPHdiesel/TPHmotor oil/kerosene(8015)	EPA 601/8010/502.2/504/8021	EPA 602/8020	EPA 608/8080 (Pesticides)/505/508	EPA 608/8080 (PCBS)	EPA 624/8240/524.2/8260	EPA 625/8270/525	Total Oil & Grease (5520)	Non-Polar O & G/TRPH (418.1)	Organic Lead		RCI	CAM-17 Metals	CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)	Lead																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Relinquished by:

Received by:

Relinquished by:

Received by:

Date: 6/18/99

Time: 18:35

Date: 6/18/99

Time: 18:35

Date:

Time:

Date:

Time:

PLEASE READ REVERSE SIDE FOR TERMS AND CONDITIONS



Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

July 1, 1999

Invoice #: 11218
Project Name: Caltrans Rte. 12/505
Project #: 782983

Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Mr. Dave Smith,

Enclosed are the analytical results for our invoice #11218. The samples were received at Sparger Technology Analytical Lab on June 21, 1999.

The samples were received in EPA specified containers. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

The report consists of the following sections:

- I. Sample Description & Analysis Request
- II. Quality Control Report
- III. Analysis Results

No problems were encountered with the analysis of your samples.

If you require additional information please give us a call at (916) 362-8947.

Sincerely,

A handwritten signature in black ink, appearing to read "R. L. James", is written over a horizontal line.

R. L. James
Laboratory Director

I Sample Description & Analysis Request

Laboratory ID		Matrix	Sample Date	Sample ID	Analysis Description
11218	001	S	6/21/99	505B1 - 0.15	6010
11218	002	S	6/21/99	505B1 - 0.3	6010
11218	003	S	6/21/99	505B1 - 0.66	6010
11218	004	S	6/21/99	505B2 - 0.15	6010
11218	005	S	6/21/99	505B2 - 0.3	9045
					6010
11218	006	S	6/21/99	505B2 - 0.66	6010
11218	007	S	6/21/99	505B3 - 0.15	6010
11218	008	S	6/21/99	505B3 - 0.3	6010
11218	009	S	6/21/99	505B3 - 0.66	6010
11218	010	S	6/21/99	505B4 - 0.15	6010
11218	011	S	6/21/99	505B4 - 0.3	6010
11218	012	S	6/21/99	505B4 - 0.66	6010
11218	013	S	6/21/99	505B5 - 0.15	6010
11218	014	S	6/21/99	505B5 - 0.3	6010
11218	015	S	6/21/99	505B5 - 0.66	6010
11218	016	S	6/21/99	505B6 - 0.15	6010
11218	017	S	6/21/99	505B6 - 0.3	6010
11218	018	S	6/21/99	505B6 - 0.66	9045
					6010
11218	019	S	6/21/99	505B7 - 0.15	6010
11218	020	S	6/21/99	505B7 - 0.3	6010
11218	021	S	6/21/99	505B7 - 0.66	6010
11218	022	S	6/21/99	505B8 - 0.15	6010
11218	023	S	6/21/99	505B8 - 0.3	9045
					6010
11218	024	S	6/21/99	505B8 - 0.66	6010
11218	025	S	6/21/99	505B9 - 0.15	6010
11218	026	S	6/21/99	505B9 - 0.3	6010
11218	027	S	6/21/99	505B9 - 0.66	6010
11218	028	S	6/21/99	505B10 - 0.15	6010
11218	029	S	6/21/99	505B10 - 0.3	6010
11218	030	S	6/21/99	505B10 - 0.66	6010

I Sample Description & Analysis Request

Laboratory ID	Matrix	Sample Date	Sample ID	Analysis Description
11218	031	S	6/21/99	505B11-0.15
				9045
				6010
11218	032	S	6/21/99	505B11-0.3
				6010
11218	033	S	6/21/99	505B11-0.66
				6010

II Quality Control

A. **Project Specific QC.** No project specific QC (i.e., spikes and/or duplicates) was requested.

B. **Method Blank Results.** A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your sample.

No target parameters were detected in the method blank associated with your sample at the reporting limit levels noted on the data sheets in the Analytical Results section.

C. **Laboratory Control Spike.** A Laboratory Control Spike (LCS) is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The LCS results associated with your samples are on the attached Laboratory Control Spike and Laboratory Control Spike Duplicate Analysis Report.

D. **Matrix Spike Results.** A Matrix Spike is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The Matrix Spike results associated with your samples are on the attached Matrix Spike and Matrix Spike Duplicate Analysis Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration}) \times 100}{(\text{actual concentration})}$$

III Analysis Results

Results are on the attached data sheets.

EPA Method 9045 pH

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle, Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 21, 1999
Date Received: Jun 21, 1999
Date Analyzed: Jun 22, 1999
Invoice #: 11218JUN99

Project #: 782983

Project Name: Caltrans Rte. 12/505

Matrix: Soil

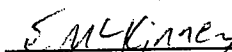
Dilution:

	Client ID	Lab ID	Amount	Limit
pH	505B2 - 0.3	11218-005A	6.5	N.A.
pH	505B6 - 0.66	11218-018A	6.6	N.A.
pH	505B8 - 0.3	11218-023A	6.7	N.A.
pH	505B11 - 0.15	11218-031A	6.6	N.A.

N.A. = Not Applicable

N.D. = Not Detected. Compound(s) may be present at concentrations below the detection limit.

N.R. = Not Requested.


E. McKinney, Inorganics Manager

Jun 22, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

Ph005

**EPA Method 6010
Lead
Method Blank**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle, Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 21, 1999
Date Received: Jun 21, 1999
Date Digested: Jun 22, 1999
Date Analyzed: Jun 23, 1999
Invoice #: 11218JUN99

Project #: 782983

Project Name: Caltrans Rte. 12/505

Client ID: Method Blank

LAB ID: 990622A

Matrix: Soil

Dilution: 1: 1

Reporting			
Name	Concentration	Limit	Units
Lead (Pb)	ND	1.0	mg/kg

ppm= parts per million = mg/kg = milligram per kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

E. McKinney
E. McKinney, Inorganics Manager

Jun 23, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010mbs

EPA Method 6010 Lead LCS / LCSD Recoveries

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle, Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 21, 1999
Date Received: Jun 21, 1999
Date Digested: Jun 22, 1999
Date Analyzed: Jun 23, 1999
Invoice #: 11218JUN99

Project #: 782983

Project Name: Caltrans Rte. 12/505

Client ID: LCS/LCSD

LAB ID: 990622A

Matrix: Soil

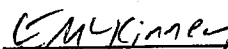
Dilution: 1: 1

Units : (mg/kg)

Element	Spike Conc.	LCS	% Recovery	Duplicate LCS	Duplicate % Recovery	% RPD
Lead (Pb)	50.0	51.6	103%	51.6	103%	0.0%

ppm = parts per million = mg/kg = milligram per kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 23, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010lcsc

EPA Method 6010 Lead MS/MSD Recoveries

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle, Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 21, 1999
Date Received: Jun 21, 1999
Date Digested: Jun 22, 1999
Date Analyzed: Jun 23, 1999
Invoice #: 11218JUN99

Project #: 782983

Project Name: Caltrans Rte. 12/505

Client ID: MS/MSD

LAB ID: 11218-001A

Matrix: Soil

Dilution: 1: 1

Units : (mg/kg)

Element	Sample Conc.	Spike Conc.	MS	% Recovery	Duplicate MSD	Duplicate % Recovery	% RPD
Lead (Pb)	510	50.0	420	*	438	*	*

ppm= parts per million = mg/Kg = milligram per kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

*Note if sample concentration is higher than the spike value irregular recoveries can occur.

E. McKinney

E. McKinney, Inorganics Manager

Jun 23, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010mss

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle, Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 21, 1999
Date Received: Jun 21, 1999
Date Digested: Jun 22, 1999
Date Analyzed: Jun 23, 1999
Invoice #: 11218JUN99

Project #: 782983

Project Name: Caltrans Rte. 12/505


Matrix: Soil

Dilution: 1: 1

Name	Client ID	LAB ID	Concentration	Reporting Limit	Units
Lead (Pb)	505B1 - 0.15	11218-001A	510	1.0	mg/kg
Lead (Pb)	505B1 - 0.3	11218-002A	6.9	1.0	mg/kg
Lead (Pb)	505B1 - 0.66	11218-003A	11	1.0	mg/kg
Lead (Pb)	505B2 - 0.15	11218-004A	133	1.0	mg/kg
Lead (Pb)	505B2 - 0.3	11218-005A	5.5	1.0	mg/kg
Lead (Pb)	505B2 - 0.66	11218-006A	7.0	1.0	mg/kg
Lead (Pb)	505B3 - 0.15	11218-007A	255	1.0	mg/kg
Lead (Pb)	505B3 - 0.3	11218-008A	5.8	1.0	mg/kg
Lead (Pb)	505B3 - 0.66	11218-009A	7.3	1.0	mg/kg
Lead (Pb)	505B4 - 0.15	11218-010A	12	1.0	mg/kg
Lead (Pb)	505B4 - 0.3	11218-011A	6.6	1.0	mg/kg

ppm= parts per million = mg/kg = milligram per kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 23, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
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(Certification No. 1614)

6010001

EPA Method 6010

Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle, Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 21, 1999
Date Received: Jun 21, 1999
Date Digested: Jun 22, 1999
Date Analyzed: Jun 23, 1999
Invoice #: 11218JUN99

Project #: 782983

Project Name: Caltrans Rte. 12/505

Matrix: Soil

Dilution: 1: 1

Name	Client ID	LAB ID	Concentration	Reporting Limit	Units
Lead (Pb)	505B4 - 0.66	11218-012A	6.2	1.0	mg/kg
Lead (Pb)	505B5 - 0.15	11218-013A	21	1.0	mg/kg
Lead (Pb)	505B5 - 0.3	11218-014A	9.4	1.0	mg/kg
Lead (Pb)	505B5 - 0.66	11218-015A	9.7	1.0	mg/kg
Lead (Pb)	505B6 - 0.15	11218-016A	17	1.0	mg/kg
Lead (Pb)	505B6 - 0.3	11218-017A	5.9	1.0	mg/kg
Lead (Pb)	505B6 - 0.66	11218-018A	7.4	1.0	mg/kg
Lead (Pb)	505B7 - 0.15	11218-019A	56	1.0	mg/kg
Lead (Pb)	505B7 - 0.3	11218-020A	10	1.0	mg/kg
Lead (Pb)	505B7 - 0.66	11218-021A	11	1.0	mg/kg
Lead (Pb)	505B8 - 0.15	11218-022A	68	1.0	mg/kg

ppm= parts per million = mg/kg = milligram per kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

E. McKinney
E. McKinney, Inorganics Manager

Jun 23, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010012

EPA Method 6010 Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle, Ste. A
Rancho Cordova, CA 95814

Date Sampled: Jun 21, 1999
Date Received: Jun 21, 1999
Date Digested: Jun 22, 1999
Date Analyzed: Jun 23, 1999
Invoice #: 11218JUN99

Project #: 782983

Project Name: Caltrans Rte. 12/505

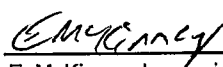
Matrix: Soil

Dilution: 1: 1

Name	Client ID	LAB ID	Concentration	Reporting Limit	Units
Lead (Pb)	505B8 - 0.3	11218-023A	15	1.0	mg/kg
Lead (Pb)	505B8 - 0.66	11218-024A	10	1.0	mg/kg
Lead (Pb)	505B9 - 0.15	11218-025A	7.0	1.0	mg/kg
Lead (Pb)	505B9 - 0.3	11218-026A	16	1.0	mg/kg
Lead (Pb)	505B9 - 0.66	11218-027A	11	1.0	mg/kg
Lead (Pb)	505B10 - 0.15	11218-028A	7.9	1.0	mg/kg
Lead (Pb)	505B10 - 0.3	11218-029A	5.8	1.0	mg/kg
Lead (Pb)	505B10 - 0.66	11218-030A	6.3	1.0	mg/kg
Lead (Pb)	505B11 - 0.15	11218-031A	7.6	1.0	mg/kg
Lead (Pb)	505B11 - 0.3	11218-032A	6.7	1.0	mg/kg
Lead (Pb)	505B11 - 0.66	11218-033A	4.4	1.0	mg/kg

ppm = parts per million = mg/kg = milligram per kilogram

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 23, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

6010023

Company: IT Corporation Phone: 916 858 2350

Project Manager: Dave Smith FAX: 916 858 2355

Report Address: Billing Name & Address:

11315 Sunrise Gold Circle, Suite A
Rancho Cordova, CA 95742

Project Name:

Caltrans RT 12/505

Project/Job#:

782983

Project Location:

hwy 505 - Vacaville Valley Parkway exit

P.O.#:

ANALYSIS REQUEST

REMARKS:

Sampler's Name:

ASE

Cooler Temp.

°C

All OK

None OK

Some OK

WET(STLC)

Sample Condition

pH

TCLP

Total

Matrix

Preservative Used

Container

Sampling

Time

Date

NO.

SAMPLE ID

1

2

3

4

5

6

7

8

9

10

505B1-0.15

505B1-0.3

505B1-0.66

505B2-0.15

505B2-0.3

505B2-0.66

505B3-0.15

505B3-0.3

505B3-0.66

505B4-0.15

1949

6/21

8:06

40 mL VOA

Brass Sleeve

1 L amber bottle

250 mL Plastic

Other: plastic bag

HCl/HNO3/HF

None

Other:

Water

Soil

Air

BTX (602/8020)503.1

BTX/TPHgas (602/8020/8015)/MTBE

TPHdiesel/TPHmotor oil/kerosene(8015)

EPA 601/8010/502.2/504/8021

EPA 602/8020

EPA 608/8080 (Pesticides)/505/508

EPA 608/8080 (PCBS)

EPA 624/8240/524.2/8260

EPA 625/8270/525

Total Oil & Grease (5520)

Non-Polar O & G/TRPH (418.1)

Organic Lead

RCI

9045 pH

CAM-17 Metals

CAM-5 Metals (Cd, Cr, Pb, Ni, Zn)

Lead 6010

Standard

Rush Services (72hr/48hr/24hr/12hr)

Holiday/Weekend Rush

TAT

Relinquished by:

Received by:

Relinquished by:

Received by:

Date:

6/21/99

11:50

Date:

6/21/99

Time:

11:56

Date:

Time:

PLEASE READ REVERSE SIDE FOR TERMS AND CONDITIONS

Company:

Phone:

Project Manager:

FAX:

Report Address:

Billing Name & Address:

Project Name:

Project/Job#:

782983

Project Location:

P.O.#:

ANALYSIS REQUEST

REMARKS:

Sampler's Name:

AG

Cooler Temp.	°C	All	None	Some
		OK	OK	OK
Sample Condition				
pH				

TCLP

Total

Matrix

Preservative Used

Container

Sampling

Other:

Air

Water

Soil

Other:

None

Other:

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Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

July 1, 1999

Invoice #: 11218A
Project Name: Caltrans Rte. 12
Project #: 782983

Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Mr. Dave Smith,

Enclosed are the analytical results for our invoice #11218A. The samples were received at Sparger Technology Analytical Lab on June 18, 1999.

The samples were received in EPA specified containers. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

The report consists of the following sections:

- I. Sample Description & Analysis Request
- II. Quality Control Report
- III. Analysis Results

No problems were encountered with the analysis of your samples.

If you require additional information please give us a call at (916) 362-8947.

Sincerely,

A handwritten signature in black ink, appearing to read "R. L. James", is written over a horizontal line.

R. L. James
Laboratory Director

I Sample Description & Analysis Request

Laboratory ID	Matrix	Date Sampled	Sample ID	Date Received	Analysis Description
11218A 001	S	6/18/99	12B2 - 0.3	6/18/99	6010
11218A 002	S	6/18/99	12B10 - 0.15	6/18/99	6010
11218A 003	S	6/18/99	12B11 - 0.3	6/18/99	6010
11218A 004	S	6/18/99	12B13 - 0.15	6/18/99	6010
11218A 005	S	6/18/99	12B13 - 0.3	6/18/99	6010
11218A 006	S	6/18/99	12B14 - 0.15	6/18/99	6010
11218A 007	S	6/18/99	12B15 - 0.3	6/18/99	6010
11218A 008	S	6/18/99	12B16 - 0.3	6/18/99	6010
11218A 009	S	6/18/99	12B18 - 0.3	6/18/99	6010
11218A 010	S	6/18/99	12B18 - 0.6	6/18/99	6010
11218A 011	S	6/18/99	12B21 - 0.3	6/18/99	6010
11218A 012	S	6/18/99	12B22 - 0.15	6/18/99	6010
11218A 013	S	6/18/99	12B24 - 0.15	6/18/99	6010
11218A 014	S	6/18/99	12B25 - 0.6	6/18/99	6010
11218A 015	S	6/18/99	12B27 - 0.15	6/18/99	6010
11218A 016	S	6/18/99	12B17 - 0.16	6/18/99	6010
11218A 017	S	6/18/99	12B18 - 0.15	6/18/99	6010
11218A 018	S	6/18/99	12B19 - 0.6	6/18/99	6010
11218A 019	S	6/18/99	12B21 - 0.15	6/18/99	6010
11218A 020	S	6/18/99	12B26 - 0.6	6/18/99	6010
11218A 021	S	6/21/99	505B1 - 0.15	6/21/99	6010
11218A 022	S	6/21/99	505B2 - 0.15	6/21/99	6010
11218A 023	S	6/21/99	505B3 - 0.15	6/21/99	6010
11218A 024	S	6/21/99	505B7 - 0.15	6/21/99	6010
11218A 025	S	6/21/99	505B8 - 0.15	6/21/99	6010

**EPA Method 6010
Metals, Lead (TCLP)
Method Blank**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 29, 1999
Invoice #: 11218AJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Client ID: Method Blank


LAB ID: 990628A

Matrix: Leachate

Name	Concentration	Reporting Limit	Units
Lead (Pb)	ND	0.050	mg/L

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 29, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

TCLPPBMB.xls

**EPA Method 6010
Metals, Lead (TCLP)
LCS / LCSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 29, 1999
Invoice #: 11218AJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Client ID: LCS/LCSD

LAB ID: 990628A

Matrix: Leachate

Units : (mg/L)

Element	Spike Conc.	LCS	LCS % Recovery	LCSD	LCSD % Recovery	% RPD
Lead (Pb)	2.50	2.71	108%	2.62	105%	3.4%

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

NR = Not Requested


E. McKinney, Inorganics Manager

Jun 29, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

TCLPPBLC.xls

**EPA Method 6010
Metals, Lead (TCLP)
MS / MSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 29, 1999
Invoice #: 11218AJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Client ID: MS/MSD

LAB ID: 11218-009A

Matrix: Leachate

Units: (mg/L)

Element	Sample Conc.	Spike Conc.	MS	MS % Recovery	MSD	MSD % Recovery	% RPD
Lead (Pb)	ND	2.50	2.62	105%	2.61	104%	0.4%

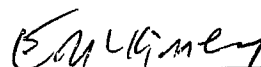
ppm= parts per million = mg/l = milligram per liter

ND = Not Detected, Compound(s) may be present at concentrations below the detection limit.

NR = Not Requested

Note: If sample concentration is higher than spike concentration, recoveries may be either high or low.

Note: If sample concentration is lower than spike concentration, recoveries may be either high or low due to matrix interference.


E. McKinney, Inorganics Manager

Jun 29, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

TCLPPBMS.xls

**EPA Method 6010
Metals, Lead (TCLP)**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 29, 1999
Invoice #: 11218AJUN99

Project #: 782983

Project Name: CalTrans Rte. 12


Matrix: Leachate

Analyte	Client ID	LAB ID	Concentration	Reporting Limit	Units
Lead (Pb)	11218A-016A	12B17 - 0.6	ND	0.050	mg/L
Lead (Pb)	11218A-017A	12B18 - 0.15	0.17	0.050	mg/L
Lead (Pb)	11218A-018A	12B19 - 0.6	0.075	0.050	mg/L
Lead (Pb)	11218A-019A	12B21 - 0.15	0.20	0.050	mg/L
Lead (Pb)	11218A-020A	12B26 - 0.6	0.065	0.050	mg/L
Lead (Pb)	11218A-021A*	505B1 - 0.15	2.2	0.050	mg/L
Lead (Pb)	11218A-022A*	505B2 - 0.15	0.77	0.050	mg/L
Lead (Pb)	11218A-023A*	505B3 - 0.15	1.3	0.050	mg/L

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

* Sampled on 6/21/99 and received on 6/21/99.


E. McKinney, Inorganics Manager

Jun 29, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

TCLPMULT009.xls

**EPA Method 6010
STLC Lead
Method Blank**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 29, 1999
Invoice#: 11218AJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Client ID: Method Blank

LAB ID: 990628B


Matrix: Leachate

Dilution: 1: 1

Analyte	Concentration	Reporting	Units
		Limit	
Lead (Pb)	ND	0.10	mg/L

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 29, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

Stlcpbmb.xls

**EPA Method 6010
STLC Lead
LCS / LCSD Recoveries**


Attention:	Mr. Dave Smith IT Corporation 11315 Sunrise Gold Circle Ste. A Rancho Cordova, CA 95742	Date Sampled: Jun 18, 1999 Date Received: Jun 18, 1999 Date Analyzed: Jun 29, 1999 Invoice#: 11218AJUN99
Project #:	782983	Project Name: CalTrans Rte. 12
Client ID:	LCS/LCSD	LAB ID: 990628B
Matrix:	Leachate	Dilution: 1: 1

Units : (mg/L)

Element	Spike Conc.	LCS	% Recovery	Duplicate LCS	Duplicate % Recovery	% RPD
Lead (Pb)	2.50	2.56	102%	2.43	97.2%	5.2%

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jun 29, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

STLCPBLCS.xls

**EPA Method 6010
STLC Lead
MS/MSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 29, 1999
Invoice#: 11218AJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Client ID: MS/MSD

LAB ID: 11218-001A

Matrix: Leachate

Dilution: 1: 1

Units : (mg/L)

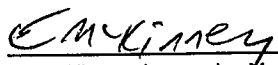
Element	Sample Conc.	Spike Conc.	MS	% Recovery	Duplicate MSD	Duplicate % Recovery	% RPD
Lead (Pb)	3.48	2.50	6.23	110%	6.27	112%	1.4%

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

Note: If sample concentration is higher than spike concentration, recoveries may be either high or low.

Note: If sample concentration is lower than spike concentration, recoveries may be either high or low due to matrix interf


E. McKinney, Inorganics Manager

Jun 29, 1999
Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

STLCPBMS.xls

EPA Method 6010 STLC Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 29, 1999
Invoice#: 11218AJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Matrix: Leachate

Dilution: 1: 1

Analyte	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11218A-001A	12B2 - 0.3	3.5	0.050	mg/L
Lead (Pb)	11218A-002A	12B10 - 0.15	2.5	0.050	mg/L
Lead (Pb)	11218A-003A	12B11 - 0.3	2.9	0.050	mg/L
Lead (Pb)	11218A-004A	12B13 - 0.15	1.5	0.050	mg/L
Lead (Pb)	11218A-005A	12B13 - 0.3	2.2	0.050	mg/L
Lead (Pb)	11218A-006A	12B14 - 0.15	2.7	0.050	mg/L
Lead (Pb)	11218A-007A	12B15 - 0.3	2.2	0.050	mg/L
Lead (Pb)	11218A-008A	12B16 - 0.3	1.4	0.050	mg/L
Lead (Pb)	11218A-009A	12B18 - 0.3	1.1	0.050	mg/L
Lead (Pb)	11218A-010A	12B18 - 0.6	0.52	0.050	mg/L

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

E. McKinney

E. McKinney, Inorganics Manager

Jun 29, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

STLCMULT001.xls

EPA Method 6010 STLC Lead

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Jun 29, 1999
Invoice#: 11218AJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Matrix: Leachate

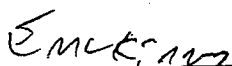
Dilution: 1: 1

Analyte	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11218A-011A	12B21 - 0.6	1.5	0.050	mg/L
Lead (Pb)	11218A-012A	12B22 - 0.15	1.8	0.050	mg/L
Lead (Pb)	11218A-013A	12B24 - 0.15	2.9	0.050	mg/L
Lead (Pb)	11218A-014A	12B25 - 0.6	2.1	0.050	mg/L
Lead (Pb)	11218A-015A	12B27 - 0.15	8.9	0.050	mg/L
Lead (Pb)	11218A-024A*	505B7 - 0.15	1.0	0.050	mg/L
Lead (Pb)	11218A-025A*	505B8 - 0.15	3.5	0.050	mg/L

ppm = parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

* Sampled on 6/21/99 and received on 6/21/99


E. McKinney, Inorganics Manager

Jun 29, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

STLCMULT015.xls

**TABLE
DRAFT
INORGANIC RESULTS - SOIL**
Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth (m)	Sample Depth (ft)	Lead			9045 pH
				Total	WET	TCLP	
12	B-1	0.15		8.9			6.4
		0.3		6.4			
		0.6		4.0			
		0.9		5.0			
	B-2	0.15		10			X
		0.3		56			
	B-3	0.15		6.7			
		0.3		4.9			
		0.6		9.1			
		0.9		5.2			
	B-4	0.15		29			
	B-5	0.15		12			
		0.3		11			
		0.6		7.4			
		0.9		6.5			
	B-6	0.15		3.0			
		0.3		4.1			
		0.9		5.0			
	B-7	0.15		5.6			
		0.3		6.9			
		0.6		3.6			
		0.9		4.1			
	B-8	0.15		3.8			
		0.3		3.2			
		0.6		4.8			
		0.9		1.4			
	B-9	0.15		4.8			6.4
		0.3		15			
		0.6		25			
		0.9		30			
	B-12	0.15		5.5			X
		0.3		62			
		0.6		47			
		0.9		11			
	B-11	0.15		7.4			X
		0.3		16			
		0.6		85			
		0.9		9.5			
	B-12	0.15		8.0			
		0.3		11			
		0.6		9.5			
		0.9		8.1			
	B-13	0.15		6.3			X X
		0.3		66			
		0.6		62			
		0.9		12			

48-HOUR
RUSH!

**TABLE
DRAFT
INORGANIC RESULTS - SOIL**
Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth (m)	Sample Depth (ft)	Lead			9045 pH
				Total	WET	TCLP	
12 Continued	B-14	0.15		7.4			
		0.3		88	X		
		0.6		22			
		0.9		7.8			
	B-15	0.15		6.8			
		0.3		26			
		0.6		71	X		
		0.9		16			
	B-16	0.15		6.8			
		0.3		20			
		0.6		62	X		
		0.9		24			
	B-17	0.15		5.5			6.6
		0.3		47			
		0.6		34			
		0.9		140		X	
	B-18	0.15		19			
		0.3		112		X	
		0.6		63	X		
		0.9		89	X		
	B-19	0.15		12			
		0.3		26			
		0.6		30			
		0.9		197		X	
	B-20	0.15		27			
		0.3		31			
		0.6		8.6			
		0.9		6.7			
	B-21	0.15		5.9			
		0.3		150		X	
		0.6		97	X		
		0.9		11			
	B-22	0.15		7.1			
		0.3		52	X		
		0.6		32			
		0.9		13			
	B-23	0.15		7.6			
		0.3		24			
		0.6		14			
		0.9		13			
	B-24	0.15		9.4			
		0.3		54	X		
		0.6		16			
		0.9		10			
	B-25	0.15		22			
		0.3		36			
		0.6		37			
		0.9		51	X		

**TABLE
DRAFT
INORGANIC RESULTS - SOIL**
Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth (m)	Sample Depth (ft)	Total	Lead WET	TCLP	9045 pH
12 Continued	B-26	0.15		15			
		0.3		8.4			
		0.6		5.6			
		0.9		105		X	
	B-27	0.15		27			
		0.3		81	X		
		0.6		16			
		0.9		21			
	B-28	0.15		25			
		0.3		30			
		0.6		20			6.6
		0.9		30			
505	B-1	0.15		510		X	
		0.3		6.9			
		0.66		11			
	B-2	0.15		133		X	
		0.3		5.5			6.5
		0.66		7.0			
	B-3	0.15		255		X	
		0.3		5.8			
		0.66		7.3			
	B-4	0.15		12			
		0.3		6.6			
		0.66		6.2			
	B-5	0.15		21			
		0.3		9.4			
		0.66		9.7			
	B-6	0.15		17			
		0.3		5.9			
		0.66		7.4			6.6
	B-7	0.15		56	X		
		0.3		10			
		0.66		11			
	B-8	0.15		68	X		
		0.3		15			6.7
		0.66		10			
	B-9	0.15		7.0			
		0.3		16			
		0.66		11			
	B-10	0.15		7.9			
		0.3		5.6			
		0.66		6.3			
	B-11	0.15		7.6			6.8
		0.3		6.7			
		0.66		4.4			

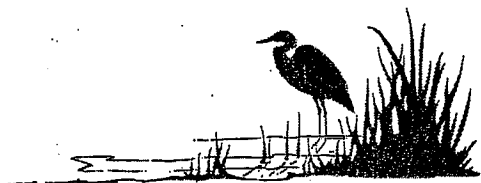
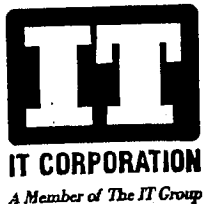
**TABLE
DRAFT
INORGANIC RESULTS - SOIL
Caltrans - Route 12 and Route 505 Investigations**

Route	Boring Number	Sample Depth (m)	Sample Depth (ft)	Lead			9045 pH
				Total	WET	TCLP	
TTLC				1000			
10X STLC				50			
STLC					5		
TCLP						5	
PRG				130			
Reporting Limit				1			NA

Notes:

1. TTLC = total threshold limit concentration. STLC = soluble threshold limit concentration.
WET = waste extraction test. TCLP = toxicity characteristic leaching procedure.
2. Sample depths reported in approximate meters (m) / feet (ft) below the ground surface.
3. WET conducted in general accordance with California Title 22 procedures. TCLP extraction and metals analyses conducted in general accordance with U.S. Environmental Protection Agency methods.
4. Total metal results reported in milligrams per kilogram. WET and TCLP results reported in milligrams per liter.
5. ND = not detected in concentrations exceeding the listed reporting limit.
6. Soil samples labeled as follows: route and boring no.-depth. Ex.: 12B1-0.3 - Route 12, boring B-1, 0.3-meter depth.
7. 10X STLC = 10 times the Soluble Threshold Limit Concentration.
Values listed in milligrams per liter.
8. PRG = preliminary remediation goal (1998) for residential soil in mg/kg.
9. For total lead results, bold results equal or exceed 10X STLC values. Bold and italics results equal or exceed the TTLC.
10. For WET and TCLP results, bold results exceed the STLC or TCLP.

**48-HOUR
RUSH!**



FACSIMILE COVER SHEET

To: Celia McCraig

From: Don Bransford / Dave Smith

Company: Calltrans

Fax Number: 510-286-5728

Date Sent: 6/25/99

IT CORPORATION

11315 Sunrise Gold Circle, Suite A

Rancho Cordova, CA 95742

Telephone: (916) 858-2350

FAX: (916) 858-2355

Number of Pages (Including Cover Sheet)

5

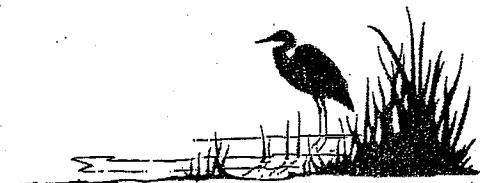
Comments:

Draft lab results

- we've requested WET and TCLP

analyses on the samples indicated

- 4/8 has Nsh



FACSIMILE COVER SHEET

To: Eric

From: Don Bradford

Company: Sparger

Fax Number: _____

Date Sent: 6/25/99

IT CORPORATION

11315 Sunrise Gold Circle, Suite A

Rancho Cordova, CA 95742

Telephone: (916) 858-2350

FAX: (916) 858-2355

Number of Pages (Including Cover Sheet)

5

Comments:

Eric - run the WET 'TCLD
analyses indicated on the enclosed
table

=> 48 hr T/A

**TABLE
DRAFT
INORGANIC RESULTS - SOIL**
Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth (m)	Sample Depth (ft)	Lead			9045 pH
				Total	WET	TCLP	
12	B-1	0.15		8.9			6.4
		0.3		6.4			
		0.6		4.0			
		0.9		5.0			
	B-2	0.15		10			
		0.3		56	X		
	B-3	0.15		6.7			
		0.3		4.9			
		0.6		9.1			
		0.9		5.2			
	B-4	0.15		29			
	B-5	0.15		12			
		0.3		11			
		0.6		7.4			
		0.9		6.5			
	B-6	0.15		3.0			
		0.3		4.1			
		0.9		5.0			
	B-7	0.15		5.6			
		0.3		6.9			
		0.6		3.6			
		0.9		4.1			
	B-8	0.15		3.6			
		0.3		3.2			
		0.6		4.8			
		0.9		1.4			
	B-9	0.15		4.8			6.4
		0.3		15			
		0.6		25			
		0.9		30			
	B-10	0.15		5.5			
		0.3		82	X		
		0.6		47			
		0.9		11			
	B-11	0.15		7.4			
		0.3		16			
		0.6		85	X		
		0.9		9.5			
	B-12	0.15		8.0			
		0.3		11			
		0.6		9.5			
		0.9		8.1			
	B-13	0.15		6.3			
		0.3		66	X		
		0.6		62	X		
		0.9		12			

**TABLE
DRAFT
INORGANIC RESULTS - SOIL**
Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth (m)	Sample Depth (ft)	Lead			9045 pH
				Total	WET	TCLP	
12 Continued	B-14	0.15		7.4			
		0.3		88	X		
		0.6		22			
		0.9		7.8			
	B-15	0.15		6.8			
		0.3		26			
		0.6		71	X		
		0.9		16			
	B-16	0.15		6.8			
		0.3		20			
		0.6		62	X		
		0.9		24			
	B-17	0.15		5.5			6.5
		0.3		47			
		0.6		34			
		0.9		140		X	
	B-18	0.15		19			
		0.3		112		X	
		0.6		63	X		
		0.9		89	X		
	B-19	0.15		12			
		0.3		26			
		0.6		30			
		0.9		197		X	
	B-20	0.15		27			
		0.3		31			
		0.6		8.6			
		0.9		6.7			
	B-21	0.15		5.9			
		0.3		150		X	
		0.6		97	X		
		0.9		11			
	B-22	0.15		7.1			
		0.3		52	X		
		0.6		32			
		0.9		13			
	B-23	0.15		7.6			
		0.3		24			
		0.6		14			
		0.9		13			
	B-24	0.15		9.4			
		0.3		54	X		
		0.6		16			
		0.9		10			
	B-25	0.15		22			
		0.3		36			
		0.6		37			
		0.9		51	X		

**TABLE
DRAFT
INORGANIC RESULTS - SOIL**
Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth (m)	Sample Depth (ft)	Lead			9045 pH
				Total	WET	TCLP	
12 Continued	B-26	0.15		15			
		0.3		8.4			
		0.6		5.6			
		0.9		105		X	
	B-27	0.15		27			
		0.3		81	X		
		0.6		16			
		0.9		21			
	B-28	0.15		25			
		0.3		30			
		0.6		20			6.6
		0.9		30			
505	B-1	0.15		510		X	
		0.3		6.9			
		0.66		11			
	B-2	0.15		133		X	
		0.3		5.5			6.5
		0.66		7.0			
	B-3	0.15		255		X	
		0.3		5.8			
		0.66		7.3			
	B-4	0.15		12			
		0.3		6.6			
		0.66		6.2			
	B-5	0.15		21			
		0.3		9.4			
		0.66		9.7			
	B-6	0.15		17			
		0.3		5.9			
		0.66		7.4			6.6
	B-7	0.15		56	X		
		0.3		10			
		0.66		11			
	B-8	0.15		68	X		
		0.3		15			6.7
		0.66		10			
	B-9	0.15		7.0			
		0.3		16			
		0.66		11			
	B-10	0.15		7.9			
		0.3		5.8			
		0.66		6.3			
	B-11	0.15		7.6			6.6
		0.3		6.7			
		0.66		4.4			

**TABLE
DRAFT
INORGANIC RESULTS - SOIL**
Caltrans - Route 12 and Route 505 Investigations

Route	Boring Number	Sample Depth (m)	Sample Depth (ft)	Lead			9045 pH
				Total	WET	TCLP	
TTLC				1000			
10X STLC				50			
STLC					5		
TCLP						5	
PRG				130			
Reporting Limit				1			NA

Notes:

1. TTLC = total threshold limit concentration. STLC = soluble threshold limit concentration.
WET = waste extraction test. TCLP = toxicity characteristic leaching procedure.
2. Sample depths reported in approximate meters (m) / feet (ft) below the ground surface.
3. WET conducted in general accordance with California Title 22 procedures. TCLP extraction and metals analyses conducted in general accordance with U.S. Environmental Protection Agency methods.
4. Total metal results reported in milligrams per kilogram. WET and TCLP results reported in milligrams per liter.
5. ND = not detected in concentrations exceeding the listed reporting limit.
6. Soil samples labeled as follows: route and boring no.-depth. Ex.: 12B1-0.3 - Route 12, boring B-1, 0.3-meter depth.
7. 10X STLC = 10 times the Soluble Threshold Limit Concentration.
Values listed in milligrams per liter.
8. PRG = preliminary remediation goal (1998) for residential soil in mg/kg.
9. For total lead results, bold results equal or exceed 10X STLC values. Bold and italics results equal or exceed the TTLC.
10. For WET and TCLP results, bold results exceed the STLC or TCLP.



Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

July 27, 1999

Invoice #: 11218B
Project Name: Caltrans Rte. 12
Project #: 782983

Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Mr. Dave Smith,

Enclosed are the analytical results for our invoice #11218B. The samples were received at Sparger Technology Analytical Lab on June 18, 1999.

The samples were received in EPA specified containers. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

The report consists of the following sections:

- I. Sample Description & Analysis Request
- II. Quality Control Report
- III. Analysis Results

No problems were encountered with the analysis of your samples.

If you require additional information please give us a call at (916) 362-8947.

Sincerely,

A handwritten signature in black ink, appearing to read "R. L. James", is written over a horizontal line.

R. L. James
Laboratory Director

I Sample Description & Analysis Request

Laboratory ID		Matrix	Date Sampled	Sample ID	Date Received	Analysis Description
11218B	001	S	6/18/99	12B17 - 0.6	6/18/99	6010
11218B	002	S	6/18/99	12B18 - 0.15	6/18/99	6010
11218B	003	S	6/18/99	12B19 - 0.6	6/18/99	6010
11218B	004	S	6/18/99	12B21 - 0.15	6/18/99	6010
11218B	005	S	6/18/99	12B26 - 0.6	6/18/99	6010
11218B	006	S	6/21/99	505B1 - 0.15	6/21/99	6010
11218B	007	S	6/21/99	505B2 - 0.15	6/21/99	6010
11218B	008	S	6/21/99	505B3 - 0.15	6/21/99	6010

II Quality Control

- A. **Project Specific QC.** No project specific QC (i.e., spikes and/or duplicates) was requested.
- B. **Method Blank Results.** A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your sample.

No target parameters were detected in the method blank associated with your sample at the reporting limit levels noted on the data sheets in the Analytical Results section.

- C. **Laboratory Control Spike.** A Laboratory Control Spike (LCS) is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The LCS results associated with your samples are on the attached Laboratory Control Spike and Laboratory Control Spike Duplicate Analysis Report.
- D. **Matrix Spike Results.** A Matrix Spike is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The Matrix Spike results associated with your samples are on the attached Matrix Spike and Matrix Spike Duplicate Analysis Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration}) \times 100}{(\text{actual concentration})}$$

III Analysis Results

Results are on the attached data sheets.

**EPA Method 6010
STLC Lead
Method Blank**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jul 22, 1999
Date Analyzed: Jul 22, 1999
Invoice#: 11218BJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Client ID: Method Blank

LAB ID: 990722D

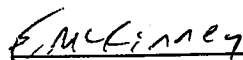
Matrix: Leachate

Dilution: 1: 1

Analyte	Concentration	Reporting Limit	Units
Lead (Pb)	ND	0.050	mg/L

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jul 22, 1999

Date Reported

SPARGER TECHNOLOGY ANALYTICAL LABORATORY, INC. IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

Stlcpbmb

**EPA Method 6010
STLC Lead
LCS / LCSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jul 22, 1999
Date Analyzed: Jul 22, 1999
Invoice#: 11218BJUN99

Project #: 782983
Client ID: LCS/LCSD
Matrix: Leachate

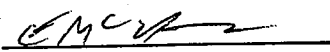
Project Name: CalTrans Rte. 12
LAB ID: 990722D
Dilution: 1: 1

Units : (mg/L)

Element	Spike Conc.	LCS	% Recovery	Duplicate LCS	Duplicate % Recovery	% RPD
Lead (Pb)	2.50	2.57	103%	2.56	102%	0.4%

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jul 22, 1999
Date Reported

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(Certification No. 1614)

STLCPBLCS

**EPA Method 6010
STLC Lead
MS/MSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jul 22, 1999
Date Analyzed: Jul 22, 1999
Invoice#: 11218BJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Client ID: MS/MSD

LAB ID: 11218B-001A

Matrix: Leachate

Dilution: 1: 1

Units : (mg/L)

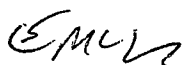
Element	Sample Conc.	Spike Conc.	MS	% Recovery	Duplicate MSD	Duplicate % Recovery	% RPD
Lead (Pb)	1.54	2.50	3.67	85.2%	3.65	84.4%	0.9%

ppm = parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

Note: If sample concentration is higher than spike concentration, recoveries may be either high or low.

Note: If sample concentration is lower than spike concentration, recoveries may be either high or low due to matrix inter


E. McKinney, Inorganics Manager

Jul 22, 1999

Date Reported

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(Certification No. 1614)

Stlcpbms

**EPA Method 6010
STLC Lead**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Digested: Jul 22, 1999
Date Analyzed: Jul 22, 1999
Invoice#: 11218BJUN99

Project #: 782983

Project Name: CalTrans Rte. 12

Client ID:

LAB ID:


Matrix: Leachate

Dilution: 1: 1

Analyte	Lab ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11218B-001A	12B17 - 0.6	1.5	0.050	mg/L
Lead (Pb)	11218B-002A	12B18 - 0.15	7.1	0.050	mg/L
Lead (Pb)	11218B-003A	12B19 - 0.6	1.4	0.050	mg/L
Lead (Pb)	11218B-004A	12B21 - 0.15	4.6	0.050	mg/L
Lead (Pb)	11218B-005A	12B26 - 0.6	0.93	0.050	mg/L
Lead (Pb)	11218B-006A	505B1 - 0.15	24	0.050	mg/L
Lead (Pb)	11218B-007A	505B2 - 0.15	13	0.050	mg/L
Lead (Pb)	11218B-008A	505B3 - 0.15	18	0.050	mg/L

ppm = parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Jul 22, 1999
Date Reported

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(Certification No. 1614)

STLCPB001.xls



IT CORPORATION
A Member of The IT Group



FACSIMILE COVER SHEET

To: EricFrom: Dave SmithCompany: Sparger

Fax Number: _____

Date Sent: 7/19/99

IT CORPORATION

11315 Sunrise Gold Circle, Suite A

Rancho Cordova, CA 95742

Telephone: (916) 858-2350

FAX: (916) 858-2355

Number of Pages (Including Cover Sheet)

1
Need W.E.T. conducted on the following:

Comments:

Route 12B17-0.6B18-0.15B19-0.6B21-0.15B26-0.6Route 505B1-0.15B2-0.15B3-0.15-HOURSparger # 11218A - 48 hr.Thank, Dave

August 3, 1999

Invoice #: 11218C
Project Name: CalTrans Rte. 12
Project #: 782983

Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Cir., Ste. A
Rancho Cordova, CA 95742

Mr. Dave Smith,

Enclosed are the analytical results for our invoice #11218C. The samples were received at Sparger Technology Analytical Lab on June 18, 1999.

The samples were received in EPA specified containers. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

The report consists of the following sections:

- I. Sample Description & Analysis Request
- II. Quality Control Report
- III. Analysis Results

No problems were encountered with the analysis of your samples.

If you require additional information please give us a call at (916) 362-8947.

Sincerely,



R. L. James
Laboratory Director

Sample Description & Analysis Request

Laboratory ID	Matrix	Date Sampled	Sample ID	Date Received	Analysis Description
11218C 001	S	6/18/99	12B18 - 0.15	6/18/99	6010
11218C 002	S	6/21/99	505B1 - 0.15	6/21/99	6010
11218C 003	S	6/21/99	505B2 - 0.15	6/21/99	6010
11218C 004	S	6/21/99	505B3 - 0.15	6/21/99	6010

II Quality Control

A. **Project Specific QC.** No project specific QC (i.e., spikes and/or duplicates) was requested.

B. **Method Blank Results.** A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your sample.

No target parameters were detected in the method blank associated with your sample at the reporting limit levels noted on the data sheets in the Analytical Results section.

C. **Laboratory Control Spike.** A Laboratory Control Spike (LCS) is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The LCS results associated with your samples are on the attached Laboratory Control Spike and Laboratory Control Spike Duplicate Analysis Report.

D. **Matrix Spike Results.** A Matrix Spike is a sample which is spiked with known analyte concentrations, and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The Matrix Spike results associated with your samples are on the attached Matrix Spike and Matrix Spike Duplicate Analysis Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration}) \times 100}{(\text{actual concentration})}$$

III Analysis Results

Results are on the attached data sheets.

**EPA Method 6010
STLC (DI Water) Lead
Method Blank**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Aug 2, 1999
Invoice#: 11218CJUL99

Project #: 782983

Project Name: CatTrans Rte. 12

Client ID: Method Blank

LAB ID: 990802A

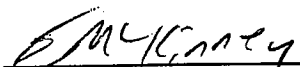
Matrix: Leachate

Dilution: 1: 1

Analyte	Concentration	Reporting Limit	Units
Lead (Pb)	ND	0.010	mg/L

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Aug 2, 1999
Date Reported

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(Certification No. 1614)

Dipbmb

**EPA Method 6010
STLC (DI Water) Lead
LCS / LCSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Aug 2, 1999
Invoice#: 11218CJUL99

Project #: 782983

Project Name: CatTrans Rte. 12

Client ID: LCS/LCSD

LAB ID: 990802A

Matrix: Leachate

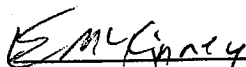
Dilution: 1: 1

Units : (mg/L)

Element	Spike Conc.	LCS	% Recovery	Duplicate LCS	Duplicate % Recovery	% RPD
Lead (Pb)	0.500	0.490	98.0%	0.488	97.6%	0.4%

ppm= parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.


E. McKinney, Inorganics Manager

Aug 2, 1999
Date Reported

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DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

Dipblcs

**EPA Method 6010
STLC (DI Water) Lead
MS/MSD Recoveries**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Aug 2, 1999
Invoice#: 11218CJUL99

Project #: 782983

Project Name: CatTrans Rte. 12

Client ID: MS/MSD

LAB ID: 11218C-001A

Matrix: Leachate

Dilution: 1: 1

Units : (mg/L)

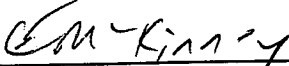
Element	Sample Conc.	Spike Conc.	MS	% Recovery	Duplicate MSD	Duplicate % Recovery	% RPD
Lead (Pb)	0.0265	0.500	0.597	114%	0.615	118%	3.1%

ppm = parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

Note: If sample concentration is higher than spike concentration, recoveries may be either high or low.

Note: If sample concentration is lower than spike concentration, recoveries may be either high or low due to matrix inter


E. McKinney, Inorganics Manager

Aug 2, 1999
Date Reported

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(Certification No. 1614)

Dipbms

**EPA Method 6010
STLC (DI Water) Lead**

Attention: Mr. Dave Smith
IT Corporation
11315 Sunrise Gold Circle Ste. A
Rancho Cordova, CA 95742

Date Sampled: Jun 18, 1999
Date Received: Jun 18, 1999
Date Analyzed: Aug 2, 1999
Invoice#: 11218CJUL99

Project #: 782983

Project Name: CatTrans Rte. 12

Matrix: Leachate

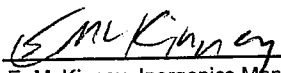
Dilution: 1: 1

Analyte	LAB ID	Client ID	Concentration	Reporting Limit	Units
Lead (Pb)	11218C-001A	12B18 - 0.15	0.026	0.010	mg/L
Lead (Pb)	11218C-002A*	505B1 - 0.15	0.16	0.010	mg/L
Lead (Pb)	11218C-003A*	505B2 - 0.15	0.085	0.010	mg/L
Lead (Pb)	11218C-004A*	505B3 - 0.15	0.11	0.010	mg/L

ppm = parts per million = mg/l = milligram per liter

ND = Not Detected. Compound(s) may be present at concentrations below the detection limit.

* Date sample and date receive on 6/21/1999.


E. McKinney, Inorganics Manager

Aug 2, 1999
Date Reported

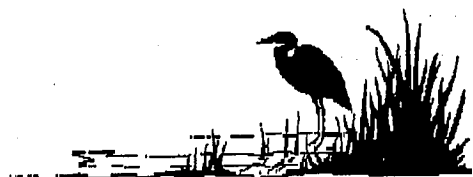
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DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1614)

Dipb001



IT CORPORATION

A Member of The IT Group



FACSIMILE COVER SHEET

To: Eric/EvanFrom: Dave SmithCompany: SpargerFax Number: 362 0947Date Sent: 7/29/99

IT CORPORATION

11315 Sunrise Gold Circle, Suite A

Rancho Cordova, CA 95742

Telephone: (916) 858-2350

FAX: (916) 858-2355

Number of Pages (Including Cover Sheet)

2

Comments:

I need the foursamples on the followingpage analyzed byD.T. WET -48 hr TATplease call to confirm.